I begin in the name of Allah (God) the most Gracious the most Merciful. Thanks, be only to Allah the glorified and salaat wa salam be (peace and blessings) on his prophet Mohammed.

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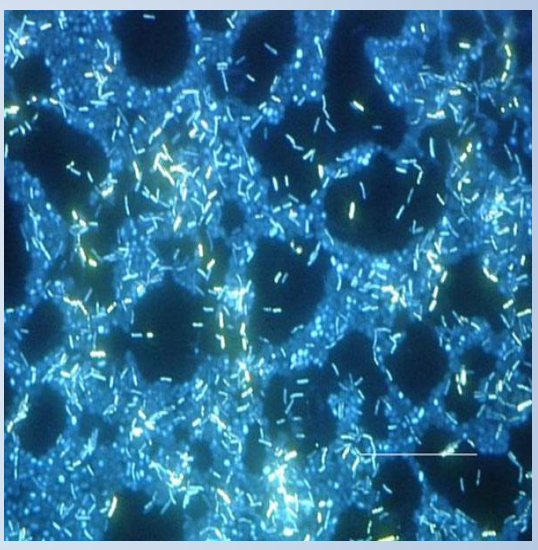
# *The Opening from the All Knower, The Generous: a comparative study between microorganisms and Jinn*

*5th editing version April 2022*

*1443*



Prepared by D. Ranj R. Mohammed Ali

بسم الله الرحمن الرحيم

I begin in the name of Allah (God) the most Gracious the most Merciful. Thanks, be only to Allah the glorified and salaat wa salam be (peace and blessings) on his prophet Mohammed.

# *The Opening from the All Knower, The Generous: a comparative study between Microorganisms and Jinn*

## *5th editing version April 2022*

## *1443*

(P.S All the true information is from Allah and what is wrong is from myself and satan)

Written and prepared by Ranj Rafiq Mohammed Ali

## Foreword:

This paper is a review article to help clarify about the reality and features of Jinn (satan or devil) which are mythical creatures for most people. While for the small percentage of people who believe in their existence, have different uncertain beliefs. These beliefs have originated from misinterpretations of the scriptures that Allah (The God) has revealed to his messengers. It Also has originated from false statements that different sects have invented for different purposes. This paper is also a review of bacteria and all other microbes by unveiling few features that have not become so popular among most people in the world. Furthermore, it is written in a mixed style, incorporating both academic and non-academic form of writing.

This paper is also meant to be a gift for every true Muslim who tries to support his or her religion (Quran and Sunnah) even by a word.

I ask my Lord to make it an alleviation of all the oppressions on all Muslims. Also, I ask my Lord to make it a light with which Allah enlightens the heart of many people and take them out of darkness to the straight path.

## Introduction:

All Praise is due to Allah the Lord of All beings and Lord of all the Worlds. Then Peace and blessings be upon the best of the creatures and the Last messenger Mohammed.

This comparative study is meant to be a review article and a comparison at the same time.

Since the seventeenth century bacteria have been accepted in the scientific field to be single celled beings and are living in a unicellular form (in a single celled form). This scientific fact was not critiqued until very recently. With the advent of sophisticated instruments and devices and with the advances of critical thinking in research larger scopes for the research for those creatures were introduced and opened. Now, it has been widespread that bacteria most commonly live-in communities consisting from multiple species. Along with those also viruses and fungi might live. Alongside this, in this article a review of the feature jinns (devil or satan) will be done *based up on the writer's understanding* from the evidences in Islam. Concomitantly alongside this, correction of some beliefs on bacteria will be presented. At the conclusion, the comparison is being discussed and critiqued. Moreover, few topics will be suggested to be researched to prove what the author has stated and concluded Although this review article was meant to refute darwin's theory, but proving that Islam was pioneer in stating very delicately accurate scientific facts would have the same impact by the will of Allah. Therefore, this review will not be about darwin's theory. However, proving that bacteria and jinn are alike would destroy the foundations and the new basis for darwin's theory. The latter states that bacteria are the common origin of live which they have been found to exist suddenly and randomly.

As for the Islamic evidences they are preceeded by an + symbol. For the scientific evidences they are preceeded # sign. The most important bit of the evidence is highlighted but this does not mean that the other bits are no important. Also, the referencing style is inconsistent as I intend not to follow a certain style. Moreover, all the texts from other refernces are not edited not to be accused by skewing the meaning according to my understanding (all texts are quouted not cited).

## Special Thanks:

Endless thanks to My Lord (Allah the Almighty) who guided me from the darkness to the light and permitted me to finish this article. Then my special thanks and gratitude to my mother, my father, my sister, my brother, my aunts, my uncles, my wife, my brothers in law, most honored brothers and friends Soran Surabani, Azad the interpreter, tareq jolanaii, noradeen warazi, akbar kalari and all other brothers in islam and everyone I love for the sake of Allah the Almighty. Finally, thanks to anyone whose had a hand in my review even if passive especially those in Islamport website, Islamweb website, Dorar website, Sahih albukhari website, sahih muslim website, Sunnah website and all the others that I have benefited from directly and indirectly (like thesaurus.com, Medscape.com, nature.com, elsevier.com, ncbi.nlm.nih.com and others)

# 1. Chapter one: Definitions and some information about Jinn

## 1.1. The Difference between Jinn, devil and iblis (satan) {Islamic Perspective}

The nature and characteristics of devils and jinns has long and old roots of discussion. Their nature has not been so popularly familiar among the common people. Therefore, we would ponder on the sayings up on the difference between these synonyms.

+ Ibn abdull barr says: "Jinnis are known amongst the linguists to be divided into groups: if they mean the jinn, then they are mentioned solely. If they mean those which live with humans inside their houses, these are called house settlers (house dwellers). If it becomes stronger it is called a satan, then if it becomes much stronger it is called a demon( ifrit)"1.

Therefore, one can conclude that jinn are of different sizes and possess different powers.

+ Shaikh Abdull kareem Obaidat said: "Therefore the best definition for Jinn would be that: they are a kind of living creatures that have free will and cannot be seen neither felt by our sensory organs and have the ability to eat, drink and multiply sexually" …….. "Also, their nature is different from those of humans as they originate from different materials. Our Lord the superior says: He created man (Adam) from sounding clay like the clay of pottery. (14) And the jinn He created from a smokeless flame of fire. (Al Quran, Chapter Ar-rahman 55, verse 14-15). Therefore, their origin is from fire, while that of the human is from clay". 2

Shaikh Obaidat's extraction from the quranic verses is true and a direct evidence that their bodies are different from humans. This gives clue that their cells and extra cellular matrix that hold the cells together would have different types and major differences from those of humans and their analogue creatures. This would be discussed thoroughly later in this paper.

1 The world of Jinn and Satans, Omar sulaiman al ashqar, page 12.

2 The world of Jinn in the light of Quran and Sunnah, Abdulkarim obaidat, page 8.

### 1.2. Can Jinns and Angels be categorized in the same group?

+ Shaikh Obaidat says: "Well, there is a disagreement among scholars of Islam whether iblis (which is the father of Jinn) is another kind of Angels or is a different kind of creature. This disagreement stems from the misinterpretation of few Quranic verses, like the one in which Allah the superior Says: And remember when We (Allah) said to the angels: "Prostrate yourselves before Adam. And they prostrated except iblîs (satan), he refused and was proud and was one of the disbelievers. ((Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan))(Al Quran, chapter Al Baqarra (2), verse 34)"3

+ Shaikh Obaidat also says "Other Scholars argue that iblis is from Jinns which are completely different from Angels. This opinion stems from the linguistic point of interpretation of the Verses which may mean that iblis is not from Angels. However, the most probable opinion is that he is a Jinni based upon the Quranic verses. Allah the Superior Says: And (remember) when We (Allah) said to the angels; "Prostrate yourselves unto Adam." So, they prostrated themselves except iblîs (satan). He was one of the jinn; he disobeyed the Command of his Lord. ((Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan)) (Al Quran, Surah Al kahf 18, verse 50). This Verse settles the argument as it clearly states that iblis (satan) which is the father of Jinn is different from Angels and is from the Class of Jinn".4

Obviously, iblis is a Jinni who has different body structures and compositions than Angels.

### 1.3. Can jinn affect the human body with harm? If yes: How?

There is a disagreement among the Islamic scholars on the issue that Jinn can harm the Human body. This disagreement originates from the difference in the explanation (interpretation) of this Verse:

+ Allah (the only deity worthy of being worshipped in Arabic or the God) the Just says: And remember Our slave Job, when he invoked his Lord saying: "Verily! satan has touched me with distress (by ruining my health) and torment (by ruining my wealth). — Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan- 5

3 The world of Jinn in the light of Quran and Sunnah, Abdulkarim obaidat, page 475.
4 The world of Jinn in the light of Quran and Sunnah, Abdulkarim obaidat, page 486.
5 Al Quran: chapter Saad 38: Verse 41.

1.3.1. The First opinion is that satan has affected Job (peace on him) by whispering bad thoughts and Ideas which could have led him to despair his Lord's Mercy.

This is the saying of Al zamakhshary, Abu Hayan, Ibn Ashur and others who are considered to be among the elite Muslim scholars (may Allah have mercy on them All).

1.3.2. The second opinion: is that satan has truly affected Job's body (peace on him), harmed him and made him ill.

This is the saying of Al Qurtubi, Ibn Katheer, Ibn Aljawzi, Albaghawy, Alshawkany and Alshinqiti (may Allah have mercy on them All) whom are also among the elite Islamic scholars.

The evidences of these different perspectives are discussed in the next Section.

### 1.3.3. The True opinion about: the damage that jinn can afflict on the Human body (The right opinion about satan's power on mankind:)

The whole difference and dispute among the Muslim scholars take its origin from the difference in understanding this Verse in the Holy Quran:

+ Allah the Most Great says: "Certainly, you shall have no authority over My slaves, except those who follow you of those who go astray. 6

It is clear that Muslim scholars split into two groups in terms of interpreting the authority of satan on Muslim humans; and they are as follow:

1. Those who explain the word of authority or power as the domination of satan on the human's body and mind. Therefore, negating any bodily harm or authority of satan on the human body. Among those are Abu Hayan the one who had written an explanation of the Holy Quran.

2. Those who interpret this word (authority) as argument or allegation that will lead the human to sin and stop (handicap) the human to repent. This means that these scholars are not opposing the idea that jinn can cause bodily harm. Among those are Al Qurtubi, Al Tabari, Al Baghawi, Al Shawkani and Al Shanqitii and others.

6 Al Quran, chapter 16 (Alhijr), verse 42

However, the true opinion might be that of the second group. This is evident in the saying of al-Qurtubi in his explanation of the Holy Quran where he explained the above verse:" satan has no power on their heart, neither on their place of faith, nor he can force them to do false action that they would not be forgiven, but this mistake is erased by repentance" 7.

Other Islamic scholars' sayings are as follow:

+ Ibnu Taymya (may Allah's mercy be on him) says: " If satan would present and appear to Prophets and messengers to harm them and disrupt their worship, and Allah keeps them away from the prophets with what he reveals to the prophets to assist them. So, what would be for those who are lesser than prophets? " 8

+ Al shinqiti (may Allah have mercy on him) also says: Allah states that He has tested his servant and His prophet Job (peace be on him) in his body, his wealth and his family. Also, that Job (peace be on him) invoked to His lord and that Allah has answered him. Moreover, He gave him back his health and family and removed his disease. Job (peace be on him) relates all those afflictions to satan. satan might had the power on Job's body (peace be on him) as Allah might allowed him to do so, to trial him as to display his great patience.9

Truly jinn can distress humans by causing different kinds of bodily damages to mankind's corpuses.

### 1.3.4. The evidences from Islam that Jinn can harm man's body:

(N.B most of the aspects of this chapter will be discussed extensively later in this paper)

+ 1. **Abu Darda' reported:** Allah's Messenger (ﷺ) stood up (to pray) and we heard him say:" I seek refuge in Allah from thee." Then said:" curse thee with Allah's curse" three times, then he stretched out his hand as though he was taking hold of something. When he finished the prayer, we said: Messenger of Allah, we heard you say something during the prayer which we have not heard you say before, and we saw you stretch out your hand. He replied: Allah's enemy iblis came with a flame of fire to put it in

7 Tafseer alQurtubi Arabic version, vol 10, pages 26-27
8 Qaaidatun jaleela in tawasoul and waseela, vol 1 page 43.
9 Adhwaaa alabayan, Vol 4 page 239-240

my face, so I said three times:" I Seek refuge in Allah from thee." Then I said three times:" I curse thee with Allah's full curse." But he did not retreat (on any one of these) three occasions. Thereafter I meant to seize him. I swear by Allah that I had it not been for the supplication of my brother Sulaiman he would have been bound, and made an object of sport for the children of Medina.[10]

There is another narration of the same saying in Sahih Al Bukhari which means that the jinn came to the prophet (ﷺ) to interrupt his prayer.
This saying is a clear proof that jinn cause bodily harms to the prophets whom are protected by God from satan.
+ 2. **Narrated Jabir bin `Abdullah:**
Allah's Messenger (ﷺ) said, "When night falls (or when it is evening), stop your children from going out, for the devils spread out at that time. But when an hour of the night has passed, release them and close the doors and mention Allah's Name, for satan does not open a closed door. Tie the mouth of your waterskins and mention Allah's Name; cover your containers and utensils and mention Allah's Name. Cover them even by placing something across it, and extinguish your lamps. " [11]
Ibn Batal narrated a saying of Almuhalab in the explanation of this prophetic saying: the prophet forbade us to set the children free after sunset as if the jinn are out then they might hurt our children and cause epilepsy.[12]
Hence, jinn can afflict epilepsy. This part will be discussed well later.

+ 3. **Abu As-Sa'ib, the freed slave of Hisham b. Zuhra, said that he visited Abu Sa'id Khudri in his house (and he further) said:**
"I found him saying his prayer, so I sat down waiting for him to finish his prayer when I heard a stir in the bundles (of wood) lying in a corner of the house. I looked towards it and found a snake. I jumped up in order to kill it, but he (Abu Sa'id Khudri) made a gesture that I should sit down. So, I sat down and as he finished (the prayer) he pointed to a room in the house and said: Do you see this room? I said: Yes. He said: There was a young man amongst us who had been newly wedded. We went with Allah's Messenger (ﷺ) (to participate in the Battle) of Trench when the young man

10 Sahih muslim vol 5, hadith 51. http://sunnah.com/muslim/5/51
11 Sahih al bukhari, book 74, hadith 49. http://sunnah.com/bukhari/74/49
12 the explanation of Sahihul Bukhari of Ibn Batal, Vol 6, page 77.

in the midday used to seek permission from Allah's Messenger (ﷺ) to return to his family. One day he sought permission from him and Allah's Messenger (ﷺ) (after granting him the permission) said to him: Carry your weapons with you for I fear the tribe of Quraiza (may harm you). The man carried the weapons and then went back and found his wife standing between the two doors. He bent towards her smitten by jealousy and made a dash towards her with a spear in order to stab her. She said: Keep your spear away and enter the house until you see that which has made me come out. He entered and found a big snake coiled on the bedding. He darted with the spear and pierced it and then went out having fixed it in the house, but the snake quivered and attacked him and no one knew which of them died first, the snake or the young man. We came to Allah's Apostle (ﷺ) and made a mention to him and said: Supplicate to Allah that that (man) may be brought back to life. Thereupon he said: Ask forgiveness for your companion and then said: There are in Medina jinn who have accepted Islam, so when you see any one of them, pronounce a warning to it for three days, and if they appear before you after that, then kill it for that is a devil." [13]

So, it is very obvious that the jinn killed (directly or indirectly) the companion of the dear prophet (peace and blessings be on him). Afflicting diseases is a much easier job than killing.

+ 4. **Yahya related to me from Malik that Yahya ibn Said said,**

"When the Messenger of Allah, may Allah bless him and grant him peace, was taken on the Night Journey, he saw an evil jinni seeking him with a torch of fire. Whenever the Messenger of Allah, may Allah bless him and grant him peace, turned, he saw him. Jibril (Gabriel the angle) said to him, 'Shall I teach you some words to say? When you say them, his torch will be put out and will fall from him.' The Messenger of Allah, may Allah bless him and grant him peace, said, 'Yes, indeed.' Jibril said, 'Say, 'I seek refuge with the Noble Face of Allah and with the complete words of Allah which neither the good person nor the corrupt can exceed, from the evil of what descends from the sky and the evil of what ascends in it, and from the evil of what is created in the earth and the evil of what comes out of it, and from

13 Sahih muslim, book 39, hadith 190. http://sunnah.com/muslim/39/190

the trials of the night and day, and from the visitations of the night and day, except for one that knocks with good, O Merciful!" "'[14]
This is confirmation that jinn wanted to harm the body of the prophet (peace and blessings be on him).

+ 5. **Allah the Most Merciful says**: And to Solomon (We subjected) the wind, its morning (stride from sunrise till midnoon) was a month's (journey), and its afternoon (stride from the midday decline of the sun to sunset) was a month's. And We caused a fount of (molten) brass to flow for him, and there were jinn that worked in front of him, by the Leave of his Lord, And whosoever of them turned aside from Our Command, We shall cause him to taste of the torment of the blazing Fire. (12) They worked for him as he desired, (making) high rooms, images, basins as large as reservoirs, and (cooking) cauldrons fixed (in their places). "Work you, O family of David, with thanks!" But few of My slaves are grateful. (13) 15
+Allah the superior states that he enslaved the jinn for Solomon (peace be on him) and they built large buildings, statues and basins for him. So, if they can build these things for him, then they surely have the ability to move things and afflict harm on mankind (at least physically).

+ 6. Allah the most powerful says: Then the Shaitân (Satan) made them slip therefrom (the Paradise), and got them out from that in which they were. We said: "Get you down, all, with enmity between yourselves. On earth will be a dwelling place for you and an enjoyment for a time."

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan 16

+ Allah the greatest says: O mankind! Eat of that which is lawful and good on the earth, and follow not the footsteps of Shaitan (Satan). Verily, he is to you an open enemy.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan 17

+ Allah the most knoweledgeable says: O you who believe! Enter perfectly in Islâm (by obeying all the rules and regulations of the Islâmic

14 Mutta malik, book 51, hadith 10. http://sunnah.com/urn/418000
15 Al Quran, Surah Sabba 34, verses 12-13

16 Quran, Chapter 2 ( Al Baqarah), verse 36
17 Quran, Chapter 2 ( Al Baqarah), verse 168

religion) and follow not the footsteps of Shaitan (Satan). Verily! He is to you a plain enemy.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan 18

+ Allah the Originator says: And of the cattle (are some) for burden (like camels) and (some are) small (unable to carry burden like sheep and goats - for food, meat, milk and wool). Eat of what Allâh has provided for you, and follow not the footsteps of Shaitân (Satan). Surely he is to you an open enemy.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan 19

+ Allah the ever dominator says: So he misled them with deception. Then when they tasted of the tree, that which was hidden from them of their shame (private parts) became manifest to them and they began to cover themselves with the leaves of Paradise (in order to cover their shame). And their Lord called out to them (saying): "Did I not forbid you that tree and tell you: Verily, Shaitân (Satan) is an open enemy unto you?"

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan 20

+ Allah the majestic says: (Allâh) said: "Get down, one of you is an enemy to the other [i.e. Adam, Hawwâ' (Eve), and Shaitân (Satan)]. On earth will be a dwelling-place for you and an enjoyment for a time."

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan 21

+ Allah the honourer says: He (the father) said: "O my son! Relate not your vision to your brothers, lest they should arrange a plot against you. Verily! Shaitân (Satan) is to man an open enemy!

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan 22

+ Allah the utterly just says: And say to My slaves (i.e. the true believers of Islâmic Monotheism) that they should (only) say those words that are the best. (Because) Shaitân (Satan) verily, sows a state of conflict and disagreements among them. Surely, Shaitân (Satan) is to man a plain enemy.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan 23

18 Quran, Chapter 2 ( Al Baqarah), verse 208
19 Quran, Chapter 6 ( Al An'am), verse 142
20 Quran, Chapter 7 ( Al A'raf), verse 22
21 Quran, Chapter 7 ( Al A'raf), verse 24
22 Quran, Chapter 12 (yusuf), verse 5
23 Quran, chapter 17 (Al Isra), verse 53

+ Allah the sustainer says: And (remember) when We said to the angels: "Prostrate yourselves unto Adam." So they prostrated themselves except Iblîs (Satan). He was one of the jinn; he disobeyed the Command of his Lord. Will you then take him (Iblîs) and his offspring as protectors and helpers rather than Me while they are enemies to you? What an evil is the exchange for the Zâlimûn (polytheists, and wrong-doers).

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan 24

+ Allah the only and the lonely God says: Then We said: "O Adam! Verily, this is an enemy to you and to your wife. So let him not get you both out of Paradise, so that you will be distressed.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan 25

+ Allah the powerful says: And he entered the city at a time of unawareness of its people: and he found there two men fighting, - one of his party (his religion - from the Children of Israel), and the other of his foes. The man of his (own) party asked him for help against his foe, so Mûsâ (Moses) struck him with his fist and killed him. He said: "This is of Shaitan's (Satan) doing: verily, he is a plain misleading enemy."

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan 26

+ Allah the King of all kings says: Surely, Shaitân (Satan) is an enemy to you, so take (treat) him as an enemy. He only invites his Hizb (followers) that they may become the dwellers of the blazing Fire.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

Lo! the devil is an enemy for you, so treat him as an enemy. He only summoneth his faction to be owners of the flaming Fire.

— Pickthall 27

+ Allah the master of the kingdoms: Did I not command you, O Children of Adam, that you should not worship Shaitân (Satan). Verily, he is a plain enemy to you.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

Did I not charge you, O ye sons of Adam, that ye worship not the devil - Lo! he is your open foe! -

24 Quran, chapter 18 (Al Kahf), verse 50
25 Quran, Chapter 20 (Taha), verse 117
26 Quran, Chapter 28 (Al Qasas), verse 15
27 Quran, Chapter 35 (Fatir), verse 6

— Pickthall28

+ Allah the ever-lasting states: And let not Shaitân (Satan) hinder you (from the right religion, i.e. Islâmic Monotheism). Verily, he (Satan) to you is a plain enemy.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

And let not Satan turn you aside. Lo! he is an open enemy for you.

— Pickthall 29

The most evident information is that satan and its gender can cause harm to humans. Also, the most obvious and common term in these verses is that satan is an open and plain enemy for humans. Humans can not see jinns by the naked eyes (this is a fact from Quran and a seen reality). On the other hand, an enemy is a person or a thing that wants to harm you. Therefore, being an open and an obvious enemy while not been obsereved means that jinns can cause harms to the humans while not being seen. This applies to bacteria, viruses, fungi and protozoa …etc (microorganisms). This will be discussed further in this paper.

## 1.4. Summary of chapter one:

Here an introduction and insight to human knowledge on some aspects of jinnis and devils from the whole scriptures were discussed. They are living creatures of different sizes and powers. Their sizes and definte shapes will be discussed briefly in the following chapters. Moreover, their powers will be extensively presented. The debate and argument regarding certain aspects of these creaures are present. However, the right decision and opinions are: they are living creatures that are living among humans and everywhere else in this planet. They also can cause and afflict bodily harms on humans.

28 Quran, Chapter 36 (Ya Sin), verse 60
29 Quran, Chapter 43 (Az-Zukhruf), verse 62

# 2. Chapter Two: diseases evoked by Jinn:

## 2.1 Introduction to the diseases evoked by Jinn:

Before procedding further forward in the whole paper we have to bring the attention of the reader that what has made the writer believes that everything is mentioned inside the holy Quran and to the fact that Jinns and microbes resemble each other is the following verse in the Holy Quran:

+ Allah the most supreme and the greatest be glorified says: All living beings roaming the earth and winged birds soaring in the sky are communities like yourselves. We have left nothing out of the Record. Then to their Lord they will be gathered all together.
— Dr. Mustafa Khattab, the Clear Quran

And there is no creature on [or within] the earth or bird that flies with its wings except [that they are] communities like you. We have not neglected in the Register a thing. Then unto their Lord they will be gathered.
— Saheeh International

There is no creature moving on the earth, nor a bird flying on its two wings, but they are all communities like you. We have not missed anything in the Book. Then, to their Lord all of them shall be gathered.
— Mufti Taqi Usmani

all the creatures that crawl on the earth and those that fly with their wings are communities like yourselves. We have missed nothing out of the Record- in the end they will be gathered to their Lord.
— Abdul Haleem

There is not an animal in the earth, nor a flying creature flying on two wings, but they are peoples like unto you. We have neglected nothing in the Book (of Our decrees). Then unto their Lord they will be gathered.
— English Translation (Pickthall)

There is not an animal (that lives) on the earth, nor a being that flies on its wings, but (forms part of) communities like you. Nothing have we omitted from the Book, and they (all) shall be gathered to their Lord in the end.
— English Translation (Yusuf Ali)

There is not a moving (living) creature on earth, nor a bird that flies with its two wings, but are communities like you. We have neglected nothing in the Book, then unto their Lord they (all) shall be gathered.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan30

From this verse we can extract the fact that microbes are even recorded in the Quran. But why can't we find their mention. Is it because that we have misinterpreted their existance and names? Also, we can extract that jinns are nations like humans and many comparisons will be made based on this fact.

## 2.2. Plague:

In Islam the story of Plague's causative agent is mentioned by our beloved prophet Mohammed (peace and blessings on him):

+ The plague was mentioned in front of Abu Musa (Allah be pleased with him) then he said we have asked the prophet (peace and blessings be on him) he replied that it is the assault (aching) from your enemies of the jinn which is martyrdom for you.31

Also, the prophet (peace and blessings be on him) said: the vanishing of my nation is by stabbing and plague which is the aching (assault) from your enemies from the jinn and in each is martyrdom. 32

+ Narrated Abu Huraira: Allah's Messenger (ﷺ) said, "There are angels guarding the entrances (or roads) of Medina, neither plague nor Ad-Dajjal will be able to enter it."33

Although there is a disagreement on the authenticity of these prophetic sayings. But some renowned scholars like albaihaqi and aldaraqutni [34]have stated that it has no issues. Also, angels are stopping satans. In consequence, the angels are stopping the plague or jinns. Hence in Islam plague is known to be caused by jinn. On the other hand, in modern science, this disease (plague) is accepted to be as a result of a Microbe popularly known as Yersinia pestis. Is this not a clear conflict of the Islamic religion with the upto date scientific facts? Explanations will follow by the will of my Lord Allah.

30 Al Quran, chapter Al An'am 6, verse 38

31 Musnad Ahmed, hadith no. 25649 and others

32 Musnad Ahmed, hadith no. 19208 and others

33 Sahih al-Bukhari, Book: virtues of Madinah, (9) Chapter: Ad-Dajjal will not be able to enter Al-Madina, hadith no. 1880

34 The Book of Illal al darqutni, book 7, page 257

### 2.2.1: The Definition of Plague in Islam and its symptoms:

+ Ibn Hajar Al Aaasqalany (Allah mercy him and raise his rank) collected the sayings of the Muslim scholars on the Plague and its definition:

"Al khaleel says: plague is an epidemic. The author of Al Nihayaa says that it is the general disease that the air is polluted with and the bodies are destroyed with. Abu bakr bin Alarabi said: it is the dominant disease that kills the soul with choking, it is called so because of its general and rapid spread. Abu Waleed Albajy said: it is an illness that dominates many people in different places, in contrast to the other sicknesses common in the environment. The illness of those many people is one while in times other than an epidemic their illnesses are dissimilar. Al Dawdy said: it is a node that appears in the armpits and the beginning of the thighs and in every fold of the Body and the right viewpoint is that it is an epidemic. Al Qathy Eiath (judge Eiath) says: the origin of Plague is the ulcer showing on the body, while epidemic is the disease in general; therefore, it is called plague because of the similarity between them in destruction. In fact, every plague is an epidemic while its contrary is not true. He also said, which indicates that this rule is true: is the epidemic of Levant was plague. Moreover, the prophetic saying proves that it is the aching from the jinn. Ibn Abdul barr said: it is a swelling or a node in the armpits or the inguinal areas. It might be found in the hands and fingers or wherever Allah wants to. Al Nawawi said in the Rawdah: it is the flowing of blood into an organ. Al Mutawali said: It is close to Leprosy whoever is infected with will have his organs worn away and his skin and flesh would fall down. Al Ghazali said: it is the swelling of the whole body due to blood associated with fever and flushing of the organ due to over-flow of blood, eventually that organ might be lost. Al Nawawi said in the tahtheeb (a book): it is a vesicle and a painful swelling; it comes out with fire (pus or fever), the surrounding of which would become discolored with either black or green or dark purple as if it is blood. Moreover, palpitation and fever occur. It most probably will affect the armpits and the inguinal areas, but may also affect the hands and the fingers and the rest of the body. A group of Doctors among them is Abu Ali bin Sina said: Most apparently it involves the Axillaries or behind the ears or the tip of the nose. He also said: it takes its origin from a poor blood that may turn into a decayed and degenerated blood. This impure blood converts into a poisonous core. This changes the tissue next

to it. Then from there a bad form would travel to the heart that leads to nausea, vomiting, palpitation and fainting. It accepts only what is weak from the organs and the worse is which it affects the main organs." 35

To sum up what the Muslim scholars described for plague; the symptoms are: Nausea, vomiting, fainting, fever, palpitation, blood poisoning (sepsis), ulcers in the peripheries (mostly), Lymph nodes enlargements especially the inguinal and the Axillary nodes and the destruction of tissues and organs (gangrene).

### 2.2.2 The Definition of Plague in modern Science and its symptoms:

While in modern medicine the symptoms are not much different from those described by the Old Muslim scholars.

# ROBERT D. PERRY AND JACQUELINE D. FETHERSTON (1997) have reported that: "Bubonic plague is the classic form of the disease. Patients usually develop symptoms of fever, headache, chills, and swollen extremely tender lymph nodes (buboes) within 2 to 6 days of contact with the organism either by flea bite or by exposure of open wounds to infected materials. In addition, gastrointestinal complaints such as nausea, vomiting, and diarrhea are common. skin lesions infrequently develop at the initial site of an infection. Soreness in the affected lymph nodes will sometimes precede swelling, and any of the lymph node areas can be involved, depending upon the site of the initial infection. Buboes are typically found in the inguinal and femoral regions but also occur in other nodes. Bacteremia or secondary plague septicemia is frequently seen in patients with bubonic plague. In one study, blood culture colony counts ranged from, <10 to 4 x $10^7$ /ml. Not surprisingly, patients with colony counts greater than 100/ml had a higher fatality rate, although at least one patient reported to have $10^7$ bacteria/ml of blood did survive.

Clinically, plague septicemia resembles septicemias caused by other gram-negative bacteria. Patients are febrile, and most have chills, headache, malaise, and gastrointestinal disturbances. There is some evidence that patients with septicemic plague have a higher incidence of abdominal pain than do bubonic plague patients. Primary pneumonic plague is a rare but deadly form of the disease that is spread via respiratory droplets through

35 Fathul Barri in the explanation of sahih al bukhari, vol 10 , pages 190-191

close contact (2 to 5 ft) with an infected individual. It progresses rapidly from a febrile flu-like illness to an overwhelming pneumonia with coughing and the production of bloody sputum". 36

Image.1 a swollen lymph node. Image from : ROBERT D. PERRY AND JACQUELINE D. FETHERSTON , *Yersinia pestis*—Etiologic Agent of Plague,

Image. 2 types of Plague

Image taken from http://www.cdc.gov/plague/symptoms/index.html

In brief, the signs and symptoms of plague described in modern science are pretty much the same as those described by Muslims with few extra

36 ROBERT D. PERRY AND JACQUELINE D. FETHERSTON , *Yersinia pestis*—Etiologic Agent of Plague, CLINICAL MICROBIOLOGY REVIEWS, Jan. 1997, p. 35–66 Vol. 10, No. 1, Copyright 1997, American Society for Microbiology

symptoms added. It can be seen clearly that the biology scientists have divided plague into three forms. However much of the symptoms are the same.

### 2.2.3. The opinion of Muslim scholars on the cause of Plague:

+ Ibn hajr in his book Fath Albari continues talking about plague's causative factor and the authenticity of the prophetic saying about the plague being from the aching of Jin. Also, this is confirmed by Alazurqanni in his explanation of Muttaa Malik.

Few contemporary Muslim scholars denied the authenticity of this prophetic saying and said that this is not true. However, their opinion is not accepted as those specialized in this field say that it is true and authentic.

## 2.3. Bacteria and the Causative bacteria for plague in current day science:

Bacteria in science:

### 2.3.1. The beginning of their discovery:

# Burton S. Guttman (1999) said: "Few centuries ago mankind started to be familiar with the organism bacteria. These are minute living creatures that are living unicellularly. It was named because the first one to see them was Anton van Leeuwenhoek under microscope when he saw the rods of anthrax and called them so originating from the Greek word baktron which is a staff rod. Most of bacteria have Pilli to enable them to move freely. Other kinds have other special types of movements. The size of a single cell ranges from 0.1-0.3 till 300-400 micron. Different kinds of bacterial classifications are being implemented nowadays"..... "Specialists considered microbes to have come into existence spontaneously without external interference. The process was thought to be through accumulation of amino acids by "themselves". These bacteria can afflict infection and are considered one of the causes of infection alongside with other microorganisms. Also, they are familiar among the biological communities to be unicellular as each single cell works separately and independently. Each cell comprises of a cell wall which surrounds the cell membrane. This membrane encircles the inner part of the cell which is called the cytoplasm. The latter contains the nucleoid which contains the genetic material called

DNA. This DNA is responsible for specifying the characteristics of the bacterium and its behavior. It also contains ribosomes which are devices used to produce amino acids then proteins. These ribosomes are utilized in a lot of intrinsic functions such as antibodies, enzymes and the cellular component itself).[37]

### 2.3.2. What is a cell?

A cell: it is a functional unit and a building block for the living creatures and is the smallest unit for living. This has the ability to replicate independently. There are different types of cells, each one of them has a specialized function. E.g. in Humans the hepatic cells along with some other cells make up the hepatic tissue. Then with other tissues they make up the liver organ. Therefore, an organ consists of hundreds of millions or billions of cells that all together share in performing the function of the organ.

### 2.3.3. What is a living creature? (simply)

It is a living kind or a living species that has the ability to perform all of its functions independently and can react to stimuli and can grow and replicate and has the ability of metabolism.

### 2.3.4. what is a human structure?

# Khan Academy website says: Humans—and other complex multicellular organisms—have systems of organs that work together, carrying out processes that keep us alive. The body has levels of organization that build on each other. Cells make up tissues, tissues make up organs, and organs make up organ systems.[38]

### 2.3.5. what is a tissue in humans?

# McKee TJ, Perlman G, Morris M, Komarova SV have stated: The ECM (extra-cellular matrix ) is a composite of cell-secreted molecules that offers biochemical and structural support to cells, tissues, and organs. In humans, the composition of the ECM can be broadly summarized as a combination of water, protein, and polysaccharide, with the precise balance of these three compartments reflecting functional requirements of the tissues. The structural requirements determine the mechanical properties of the ECM,

37 Burton S. Guttman 1999 page 609- 618

38 https://www.khanacademy.org/science/biology/principles-of-physiology/body-structure-and-homeostasis/a/tissues-organs-organ-systems

which depend on the protein composition of the matrix, particularly the abundance of collagen and elastin. The physiological relevance of these properties extends beyond simple structural integrity. The cells surrounded by the ECM are capable of sensing its rigidity through integrin-mediated interactions with the matrix. The mechanical properties of the matrix are then interpreted and affect motility, proliferation, differentiation, and apoptosis. Thus, the knowledge of the precise composition of different tissues is important for understanding their structure-function relationship. Connective tissue is one of the four basic types of human tissue, and is primarily composed of fibrous ECM components. Tendons, ligaments, adipose tissue, bone, cartilage, and intervertebral disc (IVD) are connective tissues involved in diverse physiological roles including nutrient storage, endocrine function, and providing structural integrity [39]
Therefore, humans' tissues comprise of cells and ECM (extracellular matrix)

### 2.3.6. A change in regard to the conception about bacteria:

It was familiar in the medical and the non-medical fields that bacteria are living unicellularly (planktonic) and are independent on next bacterium for living. However, nowadays it is a well-accepted scientific fact that bacteria live in communities and not singularly. Here are some of the scientific researches that prove so:

# 1. Engelberg-Kulka H, Amitai S, Kolodkin-Gal I, Hazan R (2006) have stated: "Traditionally, programmed cell death (PCD) is associated with eukaryotic multicellular organisms. However, recently, PCD systems have also been observed in bacteria" [40]
# 2. Palková Z. (2004) Says: "Our present in depth knowledge of the physiology and regulatory mechanisms of microorganisms has arisen from our ability to remove them from their natural, complex ecosystems into pure liquid cultures. These cultures are grown under optimized laboratory conditions and allow us to study microorganisms as individuals. However, microorganisms naturally grow in conditions that are far from optimal,

39 McKee TJ, Perlman G, Morris M, Komarova SV. Extracellular matrix composition of connective tissues: a systematic review and meta-analysis. Sci Rep. 2019 Jul 22;9(1):10542. doi: 10.1038/s41598-019-46896-0. PMID: 31332239; PMCID: PMC6646303.
40 Engelberg-Kulka H, Amitai S, Kolodkin-Gal I, Hazan R (2006) Bacterial Programmed Cell Death and Multicellular Behavior in Bacteria. PLoS Genet 2(10): e135. doi:10.1371/journal.pgen.0020135

which causes them to become organized into multicellular communities that are better protected against the harmful environment. Moreover, this multicellular existence allows individual cells to differentiate and acquire specific properties, such as forming resistant spores, which benefit the whole population"[41]

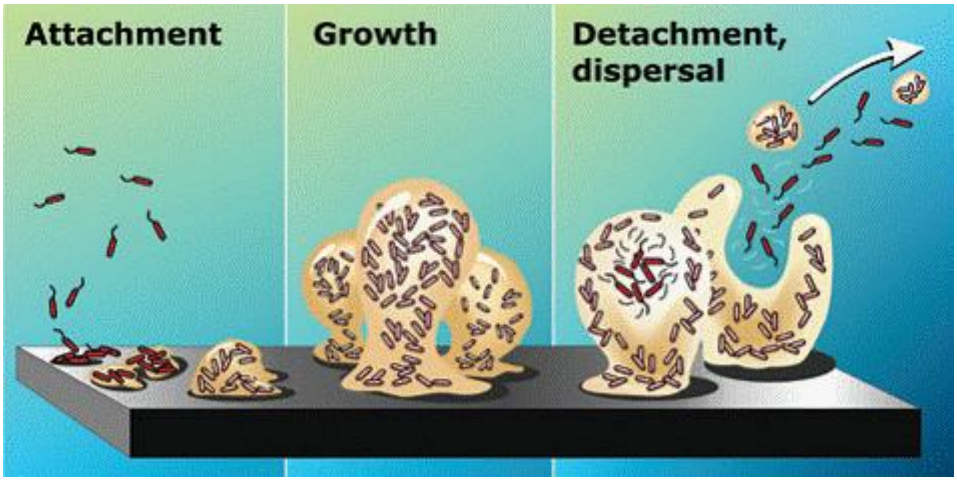



Image.3 The Life cycle of a biofilm. From http://www.perioprotect.com/images/1msuBiofilm.gif

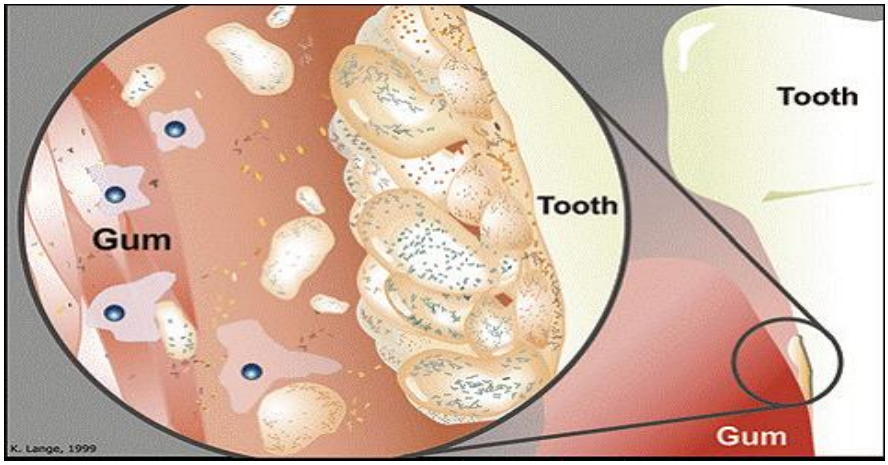



Image 4. Biofilms inside the Mouth. From http://www.perioprotect.com/images/1msuBiofilm.gif

# 3. Mahadevan (2002) says: *"*One take-home message from these studies is that we may need to get rid of the implicit conviction that the bacterium, being most familiar to us as a unicellular creature, is also the biological equivalent of the physicist's 'independent particle'. The other is that the

41 Palková Z. Multicellular microorganisms: laboratory versus nature. EMBO Rep. 2004 May;5(5):470-6. doi: 10.1038/sj.embor.7400145. PMID: 15184977; PMCID: PMC1299056.

Petri dish remains a powerful tool to gain new insights on the wonders of the microbial world*"*[42]

# 4. Webb JS, Thompson LS, James S, Charlton T, Tolker-Nielsen T, Koch B, Givskov M, Kjelleberg S. (2003) say: "Bacteria growing in biofilms often develop multicellular, three-dimensional structures known as micro-colonies. Complex differentiation within biofilms of Pseudomonas aeruginosa occurs, leading to the creation of voids inside micro-colonies and to the dispersal of cells from within these voids. However, key developmental processes regulating these events are poorly understood. A normal component of multicellular development is cell death". [43]

# 5. E. Peter Greenberg (2003) says: "The existence of species-specific and interspecies bacterial cell-cell communication and group organization was only recently accepted. Researchers are now realizing that the ability of these microbial teams to communicate and form structures, known as biofilms, at key times during the establishment of infection significantly increases their ability to evade both host defenses and antibiotics"[44]

# 6. Morris CE, Monier J, Jacques M. (1997) say:" In many environments, it is common to find assemblages of micro-organisms adherent to each other and/or to a surface and embedded in a matrix of exopolymers. These assemblages are referred to as biofilms. Scanning electron microscopy (SEM) images of matrix-enclosed microbial assemblages on leaf surfaces have led some authors to suggest that biofilms occur in the phyllosphere. In other environments, such as aquatic milieu, where biofilms have been studied extensively, the microenvironment and physiology of biofilm bacteria are often markedly different from those of their planktonic counterparts because of some basic properties of many biofilms. (i) Biofilms are composed of an exopolymeric matrix and multiple layers of microbial cells leading to the creation of physical barriers and the establishment of chemical gradients. (ii) They generally contain multiple species of microorganisms, fostering metabolic and genetic exchange.

42 Mahadevan S. Bacterial communication. J Biosci. 2002 Sep;27(5):443-4. doi: 10.1007/BF02705033. PMID: 12381860.

43 Webb JS, Thompson LS, James S, Charlton T, Tolker-Nielsen T, Koch B, Givskov M, Kjelleberg S. Cell death in Pseudomonas aeruginosa biofilm development. J Bacteriol. 2003 Aug;185(15):4585-92. doi: 10.1128/JB.185.15.4585-4592.2003. PMID: 12867469; PMCID: PMC165772.

44 Greenberg EP. Bacterial communication and group behavior. J Clin Invest. 2003 Nov;112(9):1288-90. doi: 10.1172/JCI20099. PMID: 14597752; PMCID: PMC228476.

(iii) Many biofilm cells are attached to a surface (biotic or abiotic, including the surface of other microorganisms or debris in the biofilm), which is requisite for the expression of certain genes."[45]

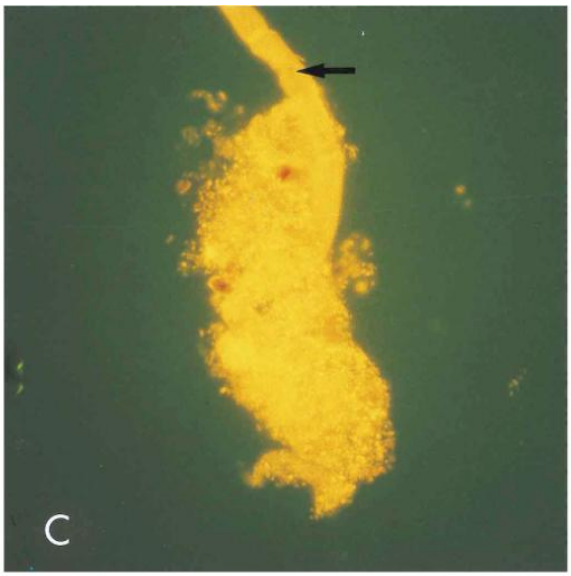



FIG. 1. Epifluorescence micrographs of naturally occurring biofilms stained with acridine orange

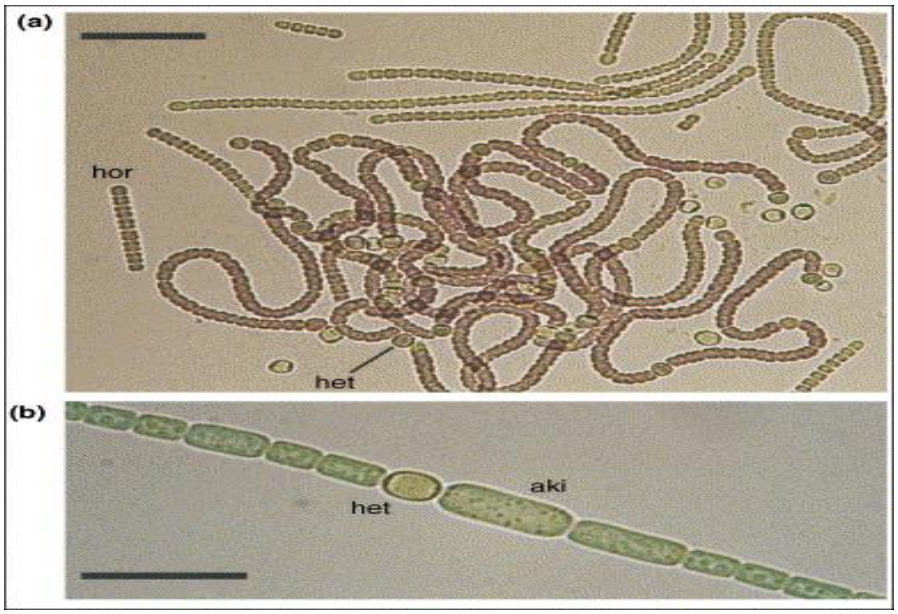
Image 5. From Morris CE, Monier J, Jacques M. 1997

# 7. William J. Brazelton, Mausmi P. Mehta, Deborah S. Kelley, and John A. Baross (2011) have stated: "Differentiation and syntrophy within a single-species biofilm. All of the evidence that has been presented in this paper and published previously is consistent with the model illustrated in Fig. 5, in which the LCMS phylotype includes genetically heterogenous populations of cells that are differentiated into multiple cell types engaging in metabolic cooperation and LGT. Metabolic and genetic interactions among organisms within biofilm communities are well documented. Because individual cells benefit in numerous ways from their membership in a diverse community, a successful biofilm requires at least some level of cooperation or, at the very least, noncompetition among the members of the community. Although selection still acts on competing lineages, the ability to participate in the community is also a selectable trait. Therefore, biofilm communities can be considered to be inherently social and multicellular. The observations reported in this paper highlight the potential for multicellular characteristics in biofilms even when they are

45 Morris CE, Monier J, Jacques M. Methods for observing microbial biofilms directly on leaf surfaces and recovering them for isolation of culturable microorganisms. Appl Environ Microbiol. 1997 Apr;63(4):1570-6. doi: 10.1128/aem.63.4.1570-1576.1997. PMID: 16535579; PMCID: PMC1389557.

dominated by a single 16S rRNA gene phylotype (e.g., LCMS). Our results are consistent with the provocative study by Boles et al., who showed that during biofilm growth, a clonal population of Pseudomonas aeruginosa rapidly generates specialized subpopulations that have increased fitness".[46]

# 8. Flores E, Herrero A, Wolk CP, Maldener I. (2006) have discussed: "Filamentous, heterocyst-forming cyanobacteria are multicellular organisms in which individual cells exchange nutrients and, presumably, regulatory molecules. Unknown mechanisms underlie this exchange. Classical electron microscopy shows that filamentous cyanobacteria bear a Gram-negative cell wall comprising a peptidoglycan layer and an outer membrane that are external to the cytoplasmic membrane, and that the outer membrane appears to be continuous along the filament of cells. This implies that the periplasmic space between the cytoplasmic and outer membranes might also be continuous. We propose that a continuous periplasm could constitute a communication conduit for the transfer of compounds, which is essential for the performance of these bacteria as multicellular organisms."[47]




46 Brazelton WJ, Mehta MP, Kelley DS, Baross JA. Physiological differentiation within a single-species biofilm fueled by serpentinization. mBio. 2011 Sep 1;2(4):e00127-11. doi: 10.1128/mBio.00127-11. PMID: 21791580; PMCID: PMC3143844.

47 Flores E, Herrero A, Wolk CP, Maldener I. Is the periplasm continuous in filamentous multicellular cyanobacteria? Trends Microbiol. 2006 Oct;14(10):439-43. doi: 10.1016/j.tim.2006.08.007. Epub 2006 Aug 23. PMID: 16934472.

Image. 6 multicellular cyanobacteria, taken from www.cell.com

# 9. Penesyan, A., Paulsen, I.T., Kjelleberg, S. et al (2021) have discussed: Because biofilms consist of multiple cells cooperating to build a differentiated structure, they exhibit characteristics of multicellular organisms. By reflecting on the structure and function of multicellular organisms we may also generate key insights into the biofilm mode of life. For example, cells within a multicellular organism have different specialised functions and different metabolic rates associated with specific developmental profiles. Moreover, the transport of materials through such multicellular organisms generates concentration gradients and compartments with different levels of oxygenation and pH. Also, properties of multicellular life include the ability to respond and adapt to environmental stimuli using regulatory mechanisms that control internal behaviours via coordinated responses of interconnected cells.

While viewing microbial assemblages such as biofilms as multicellular organisms was proposed by Shapiro, such a model has not been generally adopted, possibly due to the lack of information on system-level commonalities between bacteria and multicellular eukaryotes at that time. Further, the long-held tradition of microbiology research focusing on the use of planktonic cultures has regarded single cells as the main unit of microbial life. Although the concept of biofilm multicellularity has been previously explored, Futo et al. recently reinitiated discussions in the context of the similarity with eukaryotic models. Using molecular and morphological signatures, these authors showed that *Bacillus subtilis* biofilm growth is highly regulated and organised into discrete ontogenetic stages, analogous to those of eukaryote embryos. Therefore, the authors suggested that biofilm formation in *Bacillus* is a *bona fide* developmental process comparable to organismal development in animals, plants and fungi.[48]

To recap all the information regarding biofilms: there are differentiated pockets of discrete cells dispersed inside an Extracellular polymeric matrix just like human tissues. Moreover, this structure of biofilm has features of

48 Penesyan A, Paulsen IT, Kjelleberg S, Gillings MR. Three faces of biofilms: a microbial lifestyle, a nascent multicellular organism, and an incubator for diversity. NPJ Biofilms Microbiomes. 2021 Nov 10;7(1):80. doi: 10.1038/s41522-021-00251-2. PMID: 34759294; PMCID: PMC8581019.

multicellularity, like: Programmed cell death, differentiation, specialization, non competition of cells and embryogenic like stages. These properties are shared also by multicellular organisms such as humans. But, till now it is not common to consider biofilms as multicellular because most scientists do not want to swim against the flow.

Therefore, the reader can notice that these researches confirm that bacteria live in communities. On the other hand, other authors argue that biofilms have features and show multicellular characteristics.

### 2.3.5. What about the causative organism of plague, does it live unicellularly or in a multicellular form?

Studies have shown that the muulticellular form (biofilm) is also the existing form for Yersinia Pestis.

# Hinnebusch BJ, Erickson DL. (2008) say:" Transmission by fleabite is a relatively recent evolutionary adaptation of Yersinia pestis, the bacterial agent of bubonic plague. To produce a transmissible infection, Y. pestis grows as an attached biofilm in the foregut of the flea vector. Biofilm formation both in the flea foregut and in vitro is dependent on an extracellular matrix (ECM) synthesized by the Yersinia hms gene products"[49]

49 Hinnebusch BJ, Erickson DL. Yersinia pestis biofilm in the flea vector and its role in the transmission of plague. Curr Top Microbiol Immunol. 2008;322:229-48. doi: 10.1007/978-3-540-75418-3_11. PMID: 18453279; PMCID: PMC3727414.

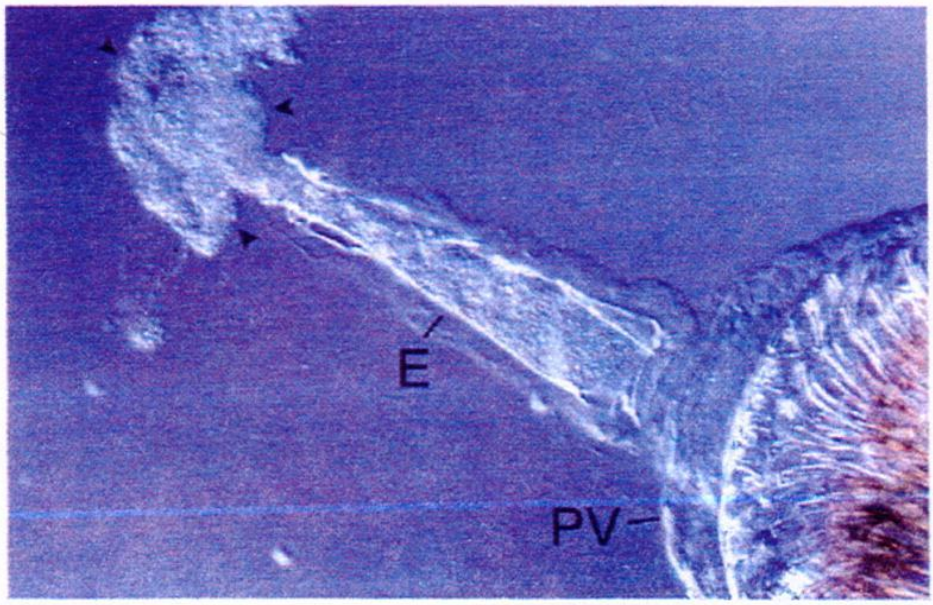



Image. 7 Y. Pestis biofilm inside the flea. Image taken from http://www.ncbi.nlm.nih.gov/pmc/articles/instance/3727414/bin/nihms489972f4.jpg

Image.8 Y. Pestis inside the gut of the flea. Image taken from http://www.ncbi.nlm.nih.gov/pmc/articles/instance/3727414/bin/nihms489972f1.gif

Till this point in this paper there are strong indications that the prophetic saying of the prophet mohammed (peace and blessings be on him) is scientifically precise and accurate (the saying regarding plague). However, there are stronger indications that it is true which will be shown later. On the other hand, few Muslims might object this point of view; however, their opinions are not accepted as all the evidences are pointing to that fact as the reader can judge later in this project.

## 2.4. Jinn being Able to afflict other infections in other organs in the human body:

+ Narrated Abdullah ibn Mas'ud:

"Zaynab, the wife of Abdullah ibn Mas'ud, told that Abdullah said: I heard the Messenger of Allah (ﷺ) saying: spells, charms and love-potions are polytheism.
I asked: Why do you say this? I swear by Allah, when my eye was discharging, I used to go to so-and-so, the Jew, who applied a spell to me. When he applied the spell to me, it calmed down. Abdullah said:
That was just the work of the Devil who was picking it with his hand, and when he uttered the spell on it, he desisted. All you need to do is to say as the Messenger of Allah (ﷺ) used to say: Remove the harm, O Lord of men, and heal. Thou art the Healer. There is no remedy but Thine which leaves no disease behind."[50]

Although this is a saying of a companion of the prophet Mohammed (peace and blessings be on him), but scholars say the companion's sayings about the unseen are mostly the prophet's words.

Therefore, anyone can conclude that jinn also cause eye infection. In this case it most likely could be a suppurative conjunctivitis (discharging corneal infection) as it was discharging and obvious to her.

# AHMAD B. TARABISHY, BENNIE H. JENG (2008) say:" Viral conjunctivitis typically presents as an itchy red eye with mild watery discharge. Many patients have signs and symptoms of a viral upper respiratory tract infection (eg, cough, runny nose, congestion) and have been in contact with a sick person. Having both eyes glued shut in the morning had an odds ratio of 15:1 in predicting a positive bacterial culture, whereas either itching or previous conjunctivitis made a bacterial cause less likely"[51]

One can assume that the most common cause of conjuctival infections is bacterial infection.

## 2.5. summary of chapter two:

All the evidences presented in this chapter indicate that bacteria and other micro-organisms are living in communities of multiple types and specializations. These cells are dispersed into an extracellular matrix just

50 Sunan Abi Dawoud, Book 29, hadith 29. http://sunnah.com/abudawud/29/29
51 Tarabishy AB, Jeng BH. Bacterial conjunctivitis: a review for internists. Cleve Clin J Med. 2008 Jul;75(7):507-12. doi: 10.3949/ccjm.75.7.507. PMID: 18646586.

the same as human tissues are basically composed of. In addition, the causative factor of plague was presented as being a multicellular organism and being from among the jinns (categorized as jinns). Being from among the jinns means that they have logic (brain), eyes, ears, hands and different other organs which have not been discussed for biofilms yet. In the next chapter these will be thoroughly discussed.

# 3. Chapter Three: Perceiving (recognizing, seeing) the devil and its shape: What are the characteristics of devil?

## 3.1 Humans can not see jinns at all!

### 3.1.1. the above Is The deep-rooted and the common concept among most Muslims. Is this concept true?

+ The whole issue revolves around this verse, Allah the Most superior says: O Children of Adam! Let not Satan deceive you, as he got your parents out of Paradise, stripping them of their raiments, to show them their private parts. Verily, he and his tribe see you from where you cannot see them. Verily, we made the devils protectors and helpers for those who believe not. [52]

### 3.1.2. Muslim scholars have split into four opinions on this point of view:

+ Shaikh Abdul kareem ubaidat said:

"1. Most of the Muslim scholars agree that Jinn can be seen if they reform only sometimes and only for selected people.

2. Those who think that perceiving jinn is special only for prophets (peace on them) only. Amongst those are Al Shafii, Ibn Hazm, Al Nahas and Al Qushairi.

3. The third group denies the perception of jinn by humans whether prophets or non-prophets. Few sayings' (hadith) scholars have this notion.

4. Last group: discuss in detail of perception. They agree that jinn can be seen by prophets in their true form, this is also true for those selected by Allah from the non-prophets. Among those whom support this perspective are Al Alusi and Ibn Alaarbi."[53]

The opinion that the writer chooses, is that they can be seen by prophets and some selected humans and also by the use of means other than our direct eyes. This is supported by the prophet (ﷺ) sayings in which Dogs can see jinn directly.

52 Quran, Surah Al aaraaf (7), verse (27)

53 The world of Jinn in the light of Quran and Sunnah, Abdulkarim obaidat, page 29.

### 3.1.3. Jinns are transparent:

+ **Abu Huraira reported that he heard the Messenger of Allah (ﷺ) saying:** "A highly wicked one amongst the Jinn escaped yester night to interrupt my prayer, but Allah gave me power over him, so I seized him and intended to tie him to one of the pillars of the mosque in order that you, all together or all, might look at him, but I remembered the supplication of my brother Sulaiman:" My Lord, forgive me, give me such a kingdom as will not be possible for anyone after me (Surah Saad 38, verse35)."[54]

+ Ibn hajar alasqalani says: "Alkhatabi understood from this saying that the companions of Solomon (peace on him) had seen the Jinn in their actual form while they were working. He also said about the saying of our lord: O Children of Adam! Let not Satan deceive you, as he got your parents out of Paradise, stripping them of their raiments, to show them their private parts. Verily, he and his tribe see you from where you cannot see them. Verily, We made the devils protectors and helpers for those who believe not. (Surah al aaraf, verse 27), Means the greater portion of humans. The scholars said in response to negating the seeing of jinn in their actual form is not an absolute understanding from the verse but the obvious is that it is possible". [55]

The writer's opinion is also supported by the further two hadiths:

**+ Narrated Jabir ibn Abdullah:**

The Prophet (ﷺ) said: "When you hear the barking of dogs and the braying of asses at night, seek refuge in Allah, for they see which you do not see".[56]

+ Abu Huraira reported Allah's Messenger (ﷺ) as saying: "When you listen to the crowing of the cock, ask Allah for His favour as it sees Angels and when you listen to the braying of the donkey, seek refuge in Allah from the Satan for it sees Satan".[57]

If we substitute the meaning of the latter saying which donkeys see jinn to the later one which when we hear dogs and donkeys, we have to seek refuge we get the result that dogs see jinns when they bark in the night. This means that to our range of vision (spectrum of vision) devil is transparent. In consequence, the cells and the ECM are transparent. This is supported by

54 Sahih muslim, book 5, hadith49. http://sunnah.com/muslim/5/49
55 Fathul baarri in the explanation of Sahih al bukhari
56 Sunan abi dawud. Book 43, hadith 331. http://sunnah.com/abudawud/43/331
57Sahih al bukhari, book 59, hadith 111. http://sunnah.com/bukhari/59/111

the two sayings of the prophet (peace and blessings be on him) that discuss donkey and dogs seeing devil. Also, by the saying, when the prophet (peace and blessings be on him) grabbed the devil in the night and the companions (may Allah be pleased with) did not see the same devil. Also, if we discover an instrument that can see the spectrum in the range of donkeys and dogs, then we can see jinns.

Here is the story in modern science about the biofilms:

# Douglas RH, Jeffery G. (2014) say: "We examined lenses of 38 mammalian species from 25 families in nine orders and observed large diversity in the degree of short-wavelength transmission. All species whose lenses removed short wavelengths had retinae specialized for high spatial resolution and relatively high cone numbers, suggesting that UV removal is primarily linked to increased acuity. Other mammals, however, such as hedgehogs, dogs, cats, ferrets and okapis had lenses transmitting significant amounts of UVA (315–400 nm), suggesting that they will be UV-sensitive even without a specific UV visual pigment".[58]

It is a well-documented fact that the human optical spectrum, is between 390nm-740 nm. However, the latter research reveals that dogs' lenses can transmit Ultra violet lights ranging between 315-400 nm. Moreover, this range which dogs can visualize is the range under which some kinds of bacteria can be visualized directly on the skin using wood's lamp. Also, this range of frequencies would seem transparent to humans but not those animals. Moreover, to visualize most of them scientist usually stain most of these cells they are examined under microscope

# Schaller, M. et. al. (2005) has written that: "Porphyrins are further metabolic products of *Propionibacteria.* Their existence has been proved by coral-red fluorescence in the follicle openings by examining facial skin under Wood's light (ultraviolet-A 320–400 nm)".[59]

58 Douglas RH, Jeffery G. 2014. The spectral transmission of ocular media suggests ultraviolet sensitivity is widespread among mammals. Proc. R. Soc. B 281:20132995. http://dx.doi.org/10.1098/rspb.2013.2995

59 Schaller, M.; Loewenstein, M.; Borelli, C.; Jacob, K.; Vogeser, M.; Burgdorf, W.H.; Plewig, G. (2005). Induction of a chemoattractive proinflammatory cytokine response after stimulation of keratinocytes with*Propionibacterium acnes* and coproporphyrin III. *Br J Dermatol*. 153(1), 66-71.

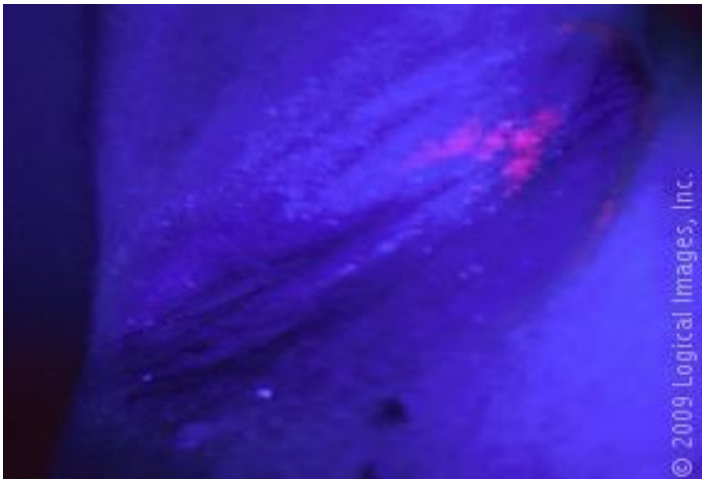



Image. 9. Porphryin produced by bacteria in the armpit. Image from http://www.skinsight.com/cosmetics/woodsLampExamination.htm

Also, the extracellular matrix is transparent.

# N RAMAIAH. et. Al. (2000) Say: "The presence of free, large, discrete polymer particles, known as transparent exopolymer particles (TEP) which are easily assimilable by bacteria (Passow and Alldredge 1995, Smith et al 1995) have been demonstrated to be of great significance in the biogeochemistry of the marine regimes (Alldredge et al 1993; Kumar et al 1998)".[60]

Then the urging question would be: what is the figure or shape of satan? (N.B. the microbiome will be mentioned a lot in this paper. Microbiota: The human microbiota consists of the 10-100 trillion symbiotic microbial cells harbored by each person, primarily bacteria in the gut; the human microbiome consists of the genes these cells harbor)[61]

### 3.2. Jinn can whisper:

Another characteristic of satan and jinns is also described in Quran. + In the name of Allah, the Beneficent, the Merciful: I seek refuge in the Lord of mankind, (1) The King of mankind, (2) The God of mankind, (3)

60 N RAMAIAH. ; Sarma, V. V. S. S. ; Gauns, Mangesh ; Dileep Kumar, M. ; Madhupratap, M. Abundance and relationship of bacteria with transparent exopolymer particles during the 1996 summer monsoon in the Arabian Sea, Proc. Indian Acad. Sci. (Earth Planet. Sci.), 109, No. 4, December 2000, pp. 443—451

61 Ursell LK, Metcalf JL, Parfrey LW, Knight R. Defining the human microbiome. Nutr Rev. 2012 Aug;70 Suppl 1(Suppl 1):S38-44. doi: 10.1111/j.1753-4887.2012.00493.x. PMID: 22861806; PMCID: PMC3426293.

From the evil of the sneaking whisperer, (4) Who whispereth in the hearts of mankind, (5) Of the jinn and of mankind. (6) [62]

Therefore, one can speculate that satan whispers or they produce sound waves.

+ Allah the Great says: Then satan whispered suggestions to them both in order to uncover that which was hidden from them of their private parts (before); he said: "Your Lord did not forbid you this tree save that you should become angels or become of the immortals." [63]

+ Allah the Great says: Then shaitan (Satan) whispered to him, saying: "O Adam! Shall I lead you to the Tree of Eternity and to a kingdom that will never waste away? [64]

So, one can figure out that the sound waves which are produced by satan are in a range which a human can hear because Adam (peace on him) heard his speech as a whisper (low energy).

+ Uthman b. Abu al-'As reported that he came to Allah's Messenger (ﷺ) and said: Allah's Messenger, the Satan intervenes between me and my prayer and my reciting of the Qur'an and he confounds me. Thereupon Allah's Messenger (ﷺ) said: That is (the doing of a) Satan (devil) who is known as Khinzab, and when you perceive its effect, seek refuge with Allah from it and spit three times to your left. I did that and Allah dispelled that from me.[65]

Clearly these evidences in Islam show that they can communicate with humans and their abilities are affected by speech (sound waves)

## CAN BIOFILMS PRODUCE SOUND WAVES?

# Coming to the scientific point of view one can refer to the following resource in which Matsuhashi et al (1998) reported: "Sound waves emitted from cells of Bacillus subtilis at frequencies between 8 and 43 kHz with broad peaks at approximately 8.5, 19, 29, and 37 kHz were detected using a sensitive microphone system".[66]

62 Al Quran, Surah An-Nas, chapter 114)

63 Al Quran, Suarh Al aaraf (7): verse 20

64 Al Quran, (Surah Taha 20: verse120)

65 Sahih muslim, the book of greetings (39), chapter(25): Chapter: Seeking Refuge With Allah From The Devil Who Whispers During Prayer, hadith no: 2203a

66 Matsuhashi M, Pankrushina AN, Takeuchi S, Ohshima H, Miyoi H, Endoh K, Murayama K, Watanabe H, Endo S, Tobi M, Mano Y, Hyodo M, Kobayashi T, Kaneko T, Otani S, Yoshimura S, Harata A, Sawada T. Production of sound waves by bacterial cells and the response of bacterial cells to sound. J Gen Appl Microbiol. 1998 Feb;44(1):49-55. doi: 10.2323/jgam.44.49. PMID: 12501293.

# Mahadevan, S (2002) has also referred: "Matsuhashi et al (1998) explored the possibility of sonic communication being involved. Amazingly, when they replaced the signaling population with a sound generator that produced audio frequencies in the range of 10 kHz to 40 kHz at a power output of ~ 50 mW, the phenomenon persisted (which is not to say that 50 mW is also the rate of sound energy production by bacteria in the original experimental situation). Clipboard To put these figures in perspective, the human ear can detect sounds whose frequencies vary from about 20 Hz to 20 kHz; and the threshold of hearing at 0 dB corresponds to a pressure level of 10–12 watts/m2 (the dynamic range goes up to 10 watts/m2 ). This level is usually measured at 1000 Hz, as we do not hear sounds of all frequencies with the same sensitivity. It should be kept in mind that the power output of a sound source is a characteristic of the source and does not account for the position (distance from source) of the observer. A better comparison would be to human vocalization rather than hearing. The acoustic power output for a whispering human voice is about 10–9 watts."[67]

So, bacteria can produce sound waves in th audible range by humans. In the coming few sections we will shed the light on fungi also.

### 3.3. Communication between Jinn or they can sense sound waves:

+ Allah the great says: Say (O Muhammad): It is revealed unto me that a company of the Jinn gave ear, and they said: Lo! we have heard a marvelous Qur'an, (1) Which guideth unto righteousness, so we believe in it and we ascribe unto our Lord no partner. (2) And (we believe) that He - exalted be the glory of our Lord! - hath taken neither wife nor son, (3) [68]

Moreover, these verses denote that jinn and satan can communicate with each other and are influenced by sound waves as they can sense soundwaves.

+ Allah the magnificent says: And (remember) when We sent towards you (Muhammad SAW) a group of the jinn, listening to the Qur'an, when they stood in the presence thereof, they said: "Listen in silence!" And when it was finished, they returned to their people, as warners. (29) They said: "O our people! Verily! We have heard a Book sent down after Moses,

67 Mahadevan S. Bacterial communication. J Biosci. 2002 Sep;27(5):443-4. doi: 10.1007/BF02705033. PMID: 12381860.

68 Al Quran, Surah al jinn (72): verses (1-3)

confirming what came before it, it guides to the truth and to a Straight Path.[69]

**+ Narrated `Abdur-Rahman:** Abu Sa`id Al-Khudri told my father, "I see you liking sheep and the wilderness. So whenever you are with your sheep or in the wilderness and you want to pronounce Adhan for the prayer raise your voice in doing so, for whoever hears the Adhan, whether a human being, a jinn or any other creature, will be a witness for you on the Day of Resurrection." Abu Sa`id added, "I heard it (this narration) from Allah's Messenger (ﷺ)."[70]

Clearly these evidences in Islam show that the jinn can communicate with each other through sound waves and they possess the suitable organ or cells to sense soundwaves.

## Biofilm and microbiome: sound waves production, communication and effects of sound waves

# Matsuhashi et al, (1998) reported that:" Bacterial cells enhance the proliferation of neighboring cells under stress conditions by emitting a physical signal. Continuous single sine sound waves produced by a speaker at frequencies of 6–10, 18–22, and 28–38 kHz promoted colony formation by Bacillus carboniphilus under non permissive stress conditions of high KCl concentration and high temperature frequencies in the same range (10 kHz– 40 kHz), though at substantially lower intensities, could be detected from populations of B. subtilis using a sensitive microphone" 71

# Mahadevan, S (2002) reported:" So, with some license, one might say that bacteria talk to each other. Note that the relevant wavelengths are in the range of 1–3 cm, which are $10^4$-fold or so larger than the length of a single bacterium. The mechanism whereby the sounds are generated is unknown; clearly, a collective phenomenon is indicated. How the signal is received and acted upon remains a mystery as well. The isolation of mutants deficient in the transmission and reception of the signal, which

69 Al Quran, Surah Al Ahqaf (46): Verses (29-30)

70 Sahih Al Bukhari, (10) Book: Call to Prayers (Adhaan), (5) Chapter: Raising the voice in pronouncing the Adhan, hadith 609

71 Matsuhashi M, Pankrushina AN, Takeuchi S, Ohshima H, Miyoi H, Endoh K, Murayama K, Watanabe H, Endo S, Tobi M, Mano Y, Hyodo M, Kobayashi T,Kaneko T, Otani S, Yoshimura S, Harata A, Sawada T, "Production of sound waves by bacterial cells and the response of bacterial cells to sound", The Journal of General and Applied Microbiology, Vol. 44, pp.49-55 (1998).

remains to be undertaken, will be an important step in elucidating the bases of these unusual examples of bacterial communication".72

# Sarvaiya, N., Kothari, V (2015) said: "Effect of a type of Indian classical music (Raag Kirwani) comprised of the sound corresponding to a frequency range of 38–689 Hz, on microbial growth, production of certain important metabolites, and antibiotic susceptibility was investigated. All the bacteria and yeasts used as test organisms were found to register better (3.15–40.37% higher) growth under the influence of music, except *Serratia marcescens*. Music treatment was also found to affect production of bacterial pigments (prodigiosin and violacein) whose production is normally linked with quorum-sensing in the producing bacteria. All the test organisms exhibited an increased antibiotic susceptibility (increase ranging from 3.81–18.69%) under the influence of music." [73]

# Cui B, Su D, Li W, She X, Zhang M, Wang R, Zhai Q. have said: Chronic noise exposure led to cognitive impairment and Aβ accumulation in young SAMP8 mice, similar to that observed in aging SAMP8 mice. Noise exposure was also associated with decreased gut microbiota diversity and compositional alterations. Axis-series studies showed that endothelial tight junction proteins were decreased in both the intestine and brain, whereas serum neurotransmitter and inflammatory mediator levels were elevated in young SAMP8 mice exposed to chronic noise, similar to the observations made in the aging group. The importance of intestinal bacteria in noise exposure-induced epithelial integrity impairment and Aβ accumulation was further confirmed through microbiota transplantation experiments. Moreover, the effects of chronic noise were generally intensity-dependent.[74]

So evidently bacteria can produce sound waves of 10000 times larger than their cell sizes and can communicate between each other as the whole bioflim. Also, they can stimulate growth of other biofilms through emitting

72 Mahadevan, S ,Bacterial communication. (2002) Bacterial communication. In: Journal of Biosciences, 27 (5). pp. 443-444

73 Sarvaiya, N., Kothari, V. Effect of audible sound in form of music on microbial growth and production of certain important metabolites. *Microbiology* **84,** 227–235 (2015). https://doi.org/10.1134/S0026261715020125

74 Cui B, Su D, Li W, She X, Zhang M, Wang R, Zhai Q. Effects of chronic noise exposure on the microbiome-gut-brain axis in senescence-accelerated prone mice: implications for Alzheimer's disease. J Neuroinflammation. 2018 Jun 22;15(1):190. doi: 10.1186/s12974-018-1223-4. PMID: 29933742; PMCID: PMC6015475.

sound waves. Moreover, their growth is enhanced by music which is composed of sound waves. Also, sound waves can have detrimental effects on the microbiome.

### 3.4. The effect of sound and sound waves on satan

+ Allah the supreme says:( And if an evil whisper comes to you from Shaitân (Satan), then seek refuge with Allâh. Verily, He is All-Hearer, All-Knower.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

And if a slander from the devil wound thee, then seek refuge in Allah. Lo! He is Hearer, Knower.

— Pickthall

If a suggestion from Satan assails thy (mind), seek refuge with Allah; for He heareth and knoweth (all things).

— Yusuf Ali

And if an evil suggestion comes to you from Satan, then seek refuge in Allah. Indeed, He is Hearing and Knowing.

— Saheeh International) [75]

**+ Narrated Aisha:**

That once Abu Bakr came to her on the day of `Id-ul-Fitr or `Id ul Adha while the Prophet (ﷺ) was with her and there were two girl singers with her, singing songs of the Ansar about the day of Buath. Abu Bakr said twice. "Musical instrument of Satan!" But the Prophet (ﷺ) said, "Leave them Abu Bakr, for every nation has an `Id (i.e., festival) and this day is our `Id " [76]

**+ Abu al-Malih reported on the authority of a man:**

I was riding on a mount behind the prophet (May peace be upon him). It stumbled. Thereupon I said: May the devil perish! He said: do not say; may the devil perish! For you say that, he will swell so much so that he will be like a house, and say: by my power. But say: in the name of Allah; for when you say that, he will diminish so much so that he will be like a fly.[77]

**+ Narrated Abu Huraira:**

Allah's Messenger (ﷺ) said, "When the Adhan is pronounced Satan takes to his heels and passes wind with noise during his flight in order not to hear

75 Quran, chapter 7 (Al AAraaf), verse 200

76 Sahih al-Bukhari, Book (63): Merits of the Helpers in Madinah (Ansaar), (46)Chapter: The arrival of the Prophet (saws) at Al-Madina, hadith 3931

77 Sunan Abi dawd, Book 43 (General Behavior (Kitab Al-Adab)), Hadith 4982

the Adhan. When the Adhan is completed, he comes back and again takes to his heels when the Iqama is pronounced and after its completion, he returns again till he whispers into the heart of the person (to divert his attention from his prayer) and makes him remember things which he does not recall to his mind before the prayer and that causes him to forget how much he has prayed."[78]
One can extract that sound waves can influence satan in both a positive and a negative way.

## Biofilms and microbiome and the effect of sound wave on them:

# LuTheryn G, Glynne-Jones P, Webb JS, Carugo D, have found: Bacterial biofilms are an ever-growing concern for public health, featuring both inherited genetic resistance and a conferred innate tolerance to traditional antibiotic therapies. Consequently, there is a growing interest in novel methods of drug delivery, in order to increase the efficacy of antimicrobial agents. One such method is the use of acoustically activated microbubbles, which undergo volumetric oscillations and collapse upon exposure to an ultrasound field. This facilitates physical perturbation of the biofilm and provides the means to control drug delivery both temporally and spatially.[79]

# Bandara HM, et al. have written: Microbial biofilms are highly refractory to antimicrobials. The aim of this study was to investigate the use of low-frequency vibration therapy (20-20 kHz) on antibiotic-mediated Pseudomonas aeruginosa biofilm eradication. In screening studies, low-frequency vibrations were applied on model biofilm compositions to identify conditions in which surface standing waves were observed. Alginate surface tension and viscosity were also measured. The effect of vibration on P. aeruginosa biofilms was studied using a standard biofilm assay. Subminimal inhibitory concentrations (sub-MIC) of tobramycin (5 µg/ml) were added to biofilms 3 h prior, during, and immediately after vibration and quantitatively assessed by (2,3-bis-(2-methoxy-4-nitro-5-sulfophenyl)-2H-tetrazolium-5-carboxanilide) reduction assay (XTT) and, qualitatively, by confocal laser scanning microscopy (CLSM). The standing waves occurred at frequencies <1,000 Hz. Biofilms vibrated

78 Sahih Al Bukhari, (10) Call to Prayers (Adhaan), (4) Chapter: Superiority of the Adhan, hadith 608
79LuTheryn G, Glynne-Jones P, Webb JS, Carugo D. Ultrasound-mediated therapies for the treatment of biofilms in chronic wounds: a review of present knowledge. Microb Biotechnol. 2020 May;13(3):613-628. doi: 10.1111/1751-7915.13471. Epub 2019 Aug 7. PMID: 32237219; PMCID: PMC7111087.

without sub-MIC tobramycin showed a significantly reduced metabolism compared to untreated controls ($p < 0.05$). Biofilms treated with tobramycin and vibrated simultaneously (450, 530, 610, and 650 Hz), or vibrated (450 and 650 Hz) then treated with tobramycin subsequently, or vibrated (610 Hz, 650 Hz) after 3 h of tobramycin treatment showed significantly lower metabolism compared to P. aeruginosa biofilm treated with tobramycin alone ($p < 0.05$). CLSM imaging further confirmed these findings. Low frequency vibrations assisted tobramycin in killing P. aeruginosa biofilms at sub-MIC. Thus, sound waves together with antibiotics are a promising approach in eliminating pathogenic biofilms. [80]

# Souvik Banerjee, et al. have said: Effect of three types of sound frequencies falling within the audible range (20 Hz- 20 KHz), on bacterial growth and the antibiotic susceptibility was investigated. The bacteria used as the test organism (E. coli) was found to register better (17.5- 25.67%) growth at a frequency below 1 KHz (432 Hz), but surprisingly were witnessed to register an extremely poor (83.45-86.72%) growth at a frequency above 1 KHz (4 KHz) under the influence of distinctive sound frequencies. Sound treatment was also found to affect the antibiotic susceptibility, as our test organism was shown to exhibit a greater (11.14-13.23%) antibiotic susceptibility under the influence of a frequency below 1 KHz (432 Hz), but again was shown to exhibit a lower (5.67-6.23%) antibiotic susceptibility under the influence of a frequency above 1 KHz (4 KHz). Intracellular concentration of cations (calcium and potassium) and protein content of the music treated cultures was also significantly different than the untreated control. The audible sound employed in this study was able to affect growth and antibiotic susceptibility of our test organism.[81]

# Gu S, Zhang Y, Wu Y have found: However, facing the increasingly serious problem of acoustic pollution, very few efforts have been put forth into studying the relation of single cell organisms and sound field exposure. Herein, we studied the biological effects of sound exposure on the growth of E. coli K-12 with different acoustic parameters. The effects of sound

80 Bandara HM, Harb A, Kolacny D Jr, Martins P, Smyth HD. Sound waves effectively assist tobramycin in elimination of Pseudomonas aeruginosa biofilms in vitro. AAPS PharmSciTech. 2014 Dec;15(6):1644-54. doi: 10.1208/s12249-014-0200-1. Epub 2014 Aug 26. PMID: 25155975; PMCID: PMC4245444.

[81] Souvik Banerjee, Abhishek Goswami, Ananya Datta, Anish Pyne, Anjoom Nikhat and Bodhisattwa Ghosh. 2018. Effect of Different Sound Frequencies on the Growth and Antibiotic Susceptibility of Escherichia coli.Int.J.Curr.Microbiol.App.Sci. 7(3): 1931-1939. doi: https://doi.org/10.20546/ijcmas.2018.703.229

exposure on the intracellular macromolecular synthesis and cellular morphology of E. coli K-12 were also analyzed and discussed. Experimental results indicated that E. coli K-12 exposed to sound waves owned a higher biomass and a faster specific growth rate compared to the control group. Also, the average length of E. coli K-12 cells increased more than 27.26%. The maximum biomass and maximum specific growth rate of the stimulation group by 8000 Hz, 80dB sound wave was about 1.7 times and 2.5 times that of the control group, respectively. Moreover, it was observed that E. coli K-12 can respond rapidly to sound stress at both the transcriptional and posttranscriptional levels by promoting the synthesis of intracellular RNA and total protein.[82]

# Sarvaiya, N., Kothari, V. have established: Effect of a type of Indian classical music (Raag Kirwani) comprised of the sound corresponding to a frequency range of 38–689 Hz, on microbial growth, production of certain important metabolites, and antibiotic susceptibility was investigated. All the bacteria and yeasts used as test organisms were found to register better (3.15–40.37% higher) growth under the influence of music, except *Serratia marcescens*. Music treatment was also found to affect production of bacterial pigments (prodigiosin and violacein) whose production is normally linked with quorum-sensing in the producing bacteria. All the test organisms exhibited an increased antibiotic susceptibility (increase ranging from 3.81–18.69%) under the influence of music. *Chromobacterium violaceum* and *S. marcescens* were found to degrade cephazolin at a faster rate when incubated with music. Membrane permeability of the test organisms seemed to get altered owing to music treatment. Intracellular concentration of cations (calcium and potassium) and protein content of the music treated cultures was also significantly different than the untreated control. The audible sound in form of music employed in this study was able to affect growth, metabolism, and antibiotic susceptibility of prokaryotic as well as eukaryotic microbes. 83

82 Gu S, Zhang Y, Wu Y. Effects of sound exposure on the growth and intracellular macromolecular synthesis of E. coli k-12. PeerJ. 2016 Apr 7;4: e1920. doi: 10.7717/peerj.1920. PMID: 27077011; PMCID: PMC4830253.

83 Sarvaiya, N., Kothari, V. Effect of audible sound in form of music on microbial growth and production of certain important metabolites. *Microbiology* **84,** 227–235 (2015). https://doi.org/10.1134/S0026261715020125

The latter research and reviews confirm that microbes and microbiota dwelling in and on different areas of the human being and elsewhere can be affected by sound waves both negatively and positively.

### 3.5. Jinns can feel pain themselves:

it has been reported that jinn feel pain. This is extracted from the fact that they will be tormented by hell fire in the other life.

+ Allah the mot great says: And among us are Muslims [in submission to Allah], and among us are the unjust. And whoever has become Muslim - those have sought out the right course.14. But as for the unjust, they will be, for Hell, firewood.' 15. [84]

In these verses Allah mentions that among the jinns are believers and non-believers. Those who are non believers will be tormented by the fire of hell which means they have sensation of touch and pain.

## Do biofilms feel?

# Siryaporn A et. al (2014) said: "Pseudomonas aeruginosa infects every type of host that has been examined by deploying multiple virulence factors. Previous studies of virulence regulation have largely focused on chemical cues, but P. aeruginosa may also respond to mechanical cues. Using a rapid imaging-based virulence assay, we demonstrate that P. aeruginosa activates virulence in response to attachment to a range of chemically distinct surfaces, suggesting that this bacterial species responds to mechanical properties of its substrates. Surface-activated virulence requires quorum sensing, but activating quorum sensing does not induce virulence without surface attachment. The activation of virulence by surfaces also requires the surface-exposed protein PilY1, which has a domain homologous to a eukaryotic mechanosensor. Specific mutation of the putative PilY1 mechanosensory domain is sufficient to induce virulence in non-surface-attached cells, suggesting that PilY1 mediates surface mechanotransduction. Triggering virulence only when cells are both at high density and attached to a surface—two host-nonspecific

84 Al Quran : chapter Aljinn (72), verses (14-15)

cues—explains how P. aeruginosa precisely regulates virulence while maintaining broad host specificity."85

This research has found that p. aeruginosa activates virulence (attacking) when attached to a surface through this mechano sensor PilY1. Mechanosensors are special senasation appandages used to sense different types of surfaces.

### 3.6. satan can see (sense light rays)

+ Allah the Almighty says: O Children of Adam! Let not Shaitân (Satan) deceive you, as he got your parents [Adam and Hawwâ' (Eve)] out of Paradise, stripping them of their raiments, to show them their private parts. Verily, he and Qabîluhu (his soldiers from the jinn or his tribe) see you from where you cannot see them. Verily, we made the Shayâtin (devils) Auliyâ' (protectors and helpers) for those who believe not.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan [86]

+Allah the most merciful have said: And surely, We have created many understand not, and they have eyes wherewith they see not, and they have ears wherewith they hear not (the truth). They are like cattle, nay even more astray; those! They are the heedless ones.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

Already have We urged unto hell many of the jinn and humankind, having hearts wherewith they understand not, and having eyes wherewith they see not, and having ears wherewith they hear not. These are as the cattle - nay, but they are worse! These are the neglectful.

— Pickthall [87]

Seeing or visualization of objects by humans is the sensory process by which light is sensed by the eyes (sensory organs). These eyes consist of millions of specialized cells which begin with focusing light then sensing colors and transferring the image to the brain via nerves. The above-

85 Siryaporn A, Kuchma SL, O'Toole GA, Gitai Z. Surface attachment induces Pseudomonas aeruginosa virulence. Proc Natl Acad Sci U S A. 2014 Nov 25;111(47):16860-5. doi: 10.1073/pnas.1415712111. Epub 2014 Nov 10. PMID: 25385640; PMCID: PMC4250119.
86 Quran, Chapter 7 ( Al Araaf), verse 27
87 Quran, Chapter 7 (Al Aaraaf), Verse 179

mentioned verses of Quran lead to the fact that satan have sensory cells and organs by which they can sense light.

- Light= photo, receptors=sensors

## Bacteria can sense light:

#Schuergers N, Lenn T, Kampmann R, Meissner MV, Esteves T, Temerinac-Ott M, Korvink JG, Lowe AR, Mullineaux CW, Wilde A. have stated: The unicellular cyanobacterium Synechocystis sp. PCC 6803 moves with Type IV pili and measures light intensity and color with a range of photoreceptors. Here, we show that individual Synechocystis cells do not respond to a spatiotemporal gradient in light intensity, but rather they directly and accurately sense the position of a light source. We show that directional light sensing is possible because Synechocystis cells act as spherical microlenses, allowing the cell to see a light source and move towards it. A high-resolution image of the light source is focused on the edge of the cell opposite to the source, triggering movement away from the focused spot. Spherical cyanobacteria are probably the world's smallest and oldest example of a camera eye.

# Plain Language Summary: Cyanobacteria are blue-green bacteria that are abundant in the environment. Cyanobacteria in the oceans are among the world's most important oxygen producers and carbon dioxide consumers. Synechocystis is a spherical single-celled cyanobacterium that measures about three thousandths of a millimetre across. Because Synechocystis needs sunlight to produce energy, it is important for it to find places where the light is neither too weak nor too strong. Unlike some bacteria, Synechocystis can't swim, but it can crawl across surfaces. It uses this ability to move to places where the light conditions are better. It was already known that Synechocystis cells move towards a light source that is shone at them from one side, which implies that the cyanobacteria can "see" where the light is. But how can such a tiny cell accurately detect where light is coming from? Schuergers et al. tracked how Synechocystis moved in response to different light conditions, and found that the secret of "vision" in these cyanobacteria is that the cells act as tiny spherical lenses. When a light is shone at the cell, an image of the light source is focused at the opposite edge of the cell. Light-detecting molecules called photoreceptors respond to the focused image of the light source, and this provides the information needed to steer the cell towards the light.

Although the details are different, and although a Synechocystis cell is in terms of volume about 500 billion times smaller than a human eyeball, vision in Synechocystis actually works by principles similar to vision in humans. Schuergers et al.'s findings open plenty of further questions, as other types of bacteria may also act as tiny lenses. More also remains to be learnt about how the cyanobacteria process visual information. [88]

# Mukherjee S et al have dicussed: Bacteria convert changes in sensory inputs into alterations in gene expression, behavior, and lifestyles. A common lifestyle choice that bacteria make is whether to exhibit individual behavior and exist in the free-living planktonic state or to engage in collective behavior and form sessile communities called biofilms. Transitions between individual and collective behaviors are controlled by the chemical cell-to-cell communication process called quorum sensing. Here, we show that quorum sensing represses Pseudomonas aeruginosa biofilm formation and virulence by activating expression of genes encoding the KinB–AlgB two-component system (TCS). Phospho-AlgB represses biofilm and virulence genes, while KinB dephosphorylates and thereby inactivates AlgB. We discover that the photoreceptor BphP is the kinase that, in response to light, phosphorylates and activates AlgB. Indeed, exposing P. aeruginosa to light represses biofilm formation and virulence gene expression. To our knowledge, P. aeruginosa was not previously known to detect and respond to light. The KinB–AlgB–BphP module is present in all pseudomonads, and we demonstrate that AlgB is the partner response regulator for BphP in diverse bacterial phyla. We propose that in the KinB–AlgB–BphP system, AlgB functions as the node at which varied sensory information is integrated. This network architecture provides a mechanism enabling bacteria to integrate at least two different sensory inputs, quorum sensing (via RhlR-driven activation of algB) and light (via BphP–AlgB), into the control of collective behaviors. This study sets the stage for light-mediated control of P. aeruginosa infectivity. [89]

88 Schuergers N, Lenn T, Kampmann R, Meissner MV, Esteves T, Temerinac-Ott M, Korvink JG, Lowe AR, Mullineaux CW, Wilde A. Cyanobacteria use micro-optics to sense light direction. Elife. 2016 Feb 9;5:e12620. doi: 10.7554/eLife.12620. PMID: 26858197; PMCID: PMC4758948.

89 Mukherjee S, Jemielita M, Stergioula V, Tikhonov M, Bassler BL. Photosensing and quorum sensing are integrated to control Pseudomonas aeruginosa collective behaviors. PLoS Biol. 2019 Dec 12;17(12):e3000579. doi: 10.1371/journal.pbio.3000579. PMID: 31830037; PMCID: PMC6932827.

# Losi, A., Gärtner, W have suggested: Information on bacterial photoreceptors, their function and biochemical properties, and their impact on the bacterial behavior and plant-directed activity is more profound than for their fungal orthologs, with some notable exceptions. Pictures emerge, however, for both groups, highlighting two important aspects: (i) Photoreceptors are placed high on the regulatory pyramid, and (ii) photoreceptors are part of a maze of interacting proteins, be they other photoreceptors or, e.g., hormone receptors, in some cases in a concurrent activity, in other cases counteracting with each other. Several interesting aspects seem to emerge for plant-pathogenic bacteria such that the photoreceptors keep the game under control. In other words, these light-sensitive proteins seem to control infectivity and virulence to a level that generates not too much harm to the plant host. This becomes particularly evident when the photoreceptor genes are interrupted causing remarkably increased infectivity and in-leaf distribution of the bacteria, eventually causing tissue collapse and plant death. Nearly no information could be compiled on the downstream processes like signalling cascades or the molecular mechanisms of gene expression control that eventually result in a bacterial or fungal attack against a plant host. [90]

The aforestated research and papers affirm the fact that among the bacterial cells are types that can act as photo-receptors. Also, the author of the current paper does think that they possess specialized organs for seeing not photorecepors in single cells. This means we need further research.

### 3.7. Jinns can vibrate and oscillate:

+ Allah the most high says: "And throw your stick!" But when he saw it moving as if it were a snake, he turned in flight, and looked not back. (It was said:) "O Mûsâ (Moses)! Draw near, and fear not. Verily, you are of those who are secure.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

Allah the most high says: Throw down thy staff. And when he saw it writhing as it had been a demon, he turned to flee headlong, (and it was said unto him): O Moses! Draw nigh and fear not. Lo! thou art of those who are secure.

90 Losi A, Gärtner W. A light life together: photosensing in the plant microbiota. Photochem Photobiol Sci. 2021 Mar;20(3):451-473. doi: 10.1007/s43630-021-00029-7. Epub 2021 Mar 1. PMID: 33721277.

— Pickthall [91]

+ Allah the most great says: "And throw down your stick!" But when he saw it moving as if it were a snake, he turned in flight, and did not look back. (It was said:) "O Mûsâ (Moses)! Fear not: verily the Messengers fear not in front of Me.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

Allah the most great says: And throw down thy staff! But when he saw it writhing as it were a demon, he turned to flee headlong; (but it was said unto him): O Moses! Fear not! the emissaries fear not in My presence,

— Pickthall [92]

Although, some scholars have interpreted this verse as a snake moving based on another verse and also as this plausible in Arabic. The most obvious hint that one extract from these two verses is that satan is vibrating. This is evident as the two verse in Arabic are as the following: tahtazu ka-anha jaanun. Thtazu: means oscillating, while jaanun means jinns or even if a snake then we have proved (coming in this chapter) that some snakes are devils. This inturn leads to the finding that satan and his or her cells are oscillating or vibarating.

## Biofilms can vibrate:

# Garde, R., Ibrahim, B. & Schuster, et. al. has discovered: Biofilms are composed of microorganisms attached to a solid surface or floating on top of a liquid surface. They pose challenges in the field of medicine but can also have useful applications in industry. Regulation of biofilm growth is complex and still largely elusive. Oscillations are thought to be advantageous for biofilms to cope with nutrient starvation and chemical attacks. Recently, a minimal mathematical model has been employed to describe the oscillations in *Bacillus subtilis* biofilms.[93]

# Martinez-Corral, Rosa et. al. has cited: Cell communities can become resilient to stress by undergoing collective growth oscillations, which provide periodic stress relief and are collective in the sense that they arise only for large enough numbers of cells. Collective oscillatory phenomena

91 Quran, Chapter 28 (Al Qasas), Verse 31
92 Quran, chapter 27 (Al Naml), Verse 10
93 Garde R, Ibrahim B, Schuster S. Extending the minimal model of metabolic oscillations in Bacillus subtilis biofilms. Sci Rep. 2020 Mar 27;10(1):5579. doi: 10.1038/s41598-020-62526-6. PMID: 32221356; PMCID: PMC7101430.

usually emerge continuously as the system size increases, with oscillations starting with small amplitude and slowly growing as the cells proliferate. This behavior, however, is not appropriate in situations in which the population needs to implement a full-sized response quickly. Our combined theoretical and experimental study shows that collective oscillations in bacterial biofilm communities emerge via a discontinuous transition as their size increases. This behavior may provide an evolutionary advantage to cell communities, by allowing them to quickly alter qualitatively their dynamics in response to variations in external conditions such as stress……...Biofilm communities of Bacillus subtilis bacteria have recently been shown to exhibit collective growth-rate oscillations mediated by electrochemical signaling to cope with nutrient starvation. These oscillations emerge once the colony reaches a large enough number of cells. However, it remains unclear whether the amplitude of the oscillations, and thus their effectiveness, builds up over time gradually or if they can emerge instantly with a nonzero amplitude.[94]

# Taherzadeh D, Picioreanu C, Horn H. have said: Biofilms are layers of microbial cells growing on an interface and they can form highly complex structures adapted to a wide variety of environmental conditions. Biofilm streamers have a small immobile base attached to the support and a flexible tail elongated in the flow direction, which can vibrate in fast flows. Herein we report numerical results for the role of the periodical movement of biofilm streamers on the nutrient uptake and in general on the solute mass transfer enhancement due to flow-induced oscillations. We developed what to our knowledge is a novel two-dimensional fluid-structure interaction model coupled to unsteady solute mass transport and solved the model using the finite element method with a moving mesh. Results demonstrate that the oscillatory movement of the biofilm tail significantly increases the substrate uptake. The mass transfer coefficient is the highest in regions close to the streamer tip. [95]

94 Martinez-Corral R, Liu J, Süel GM, Garcia-Ojalvo J. Bistable emergence of oscillations in growing *Bacillus subtilis* biofilms. Proc Natl Acad Sci U S A. 2018 Sep 4;115(36):E8333-E8340. doi: 10.1073/pnas.1805004115. Epub 2018 Aug 20. PMID: 30127028; PMCID: PMC6130386.

95 Taherzadeh D, Picioreanu C, Horn H. Mass transfer enhancement in moving biofilm structures. Biophys J. 2012 Apr 4;102(7):1483-92. doi: 10.1016/j.bpj.2012.02.033. Epub 2012 Apr 3. PMID: 22500748; PMCID: PMC3318122

Those researchers have found that bacterial cells inside biofilms can actually oscillate collectively (the whole biofilm).

## 3.8. Satan can reshape : Devil and reshaping

+Allah the most supreme says: And (remember) when Shaitân (Satan) made their (evil) deeds seem fair to them and said, "No one of mankind can overcome you this Day (of the battle of Badr) and verily, I am your neighbour (for each and every help)." But when the two forces came in sight of each other, he ran away and said "Verily, I have nothing to do with you. Verily! I see what you see not. Verily! I fear Allâh for Allâh is Severe in punishment."

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[96]

+ Narrated Abu Sa`id:

The Prophet (ﷺ) said, (what is ascribed to him in the following Hadith):

+ Narrated Abu Salih As-Samman: I saw Abu Sa`id Al-Khudri praying on a Friday, behind something which acted as a Sutra. A young man from Bani Abi Mu'ait [??], wanted to pass in front of him, but Abu Sa`id repulsed him with a push on his chest. Finding no alternative, he again tried to pass but Abu Sa`id pushed him with a greater force. The young man abused Abu Sa`id and went to Marwan and lodged a complaint against Abu Sa`id and Abu Sa`id followed the young man to Marwan who asked him, "O Abu Sa`id! What has happened between you and the son of your brother?" Abu Sa`id said to him, "I heard the Prophet (ﷺ) saying, 'If anybody amongst you is praying behind something as a Sutra and somebody tries to pass in front of him, then he should repulse him and if he refuses, he should use force against him for he is a Shaitan (a Satan).' "[97]

**+ Narrated Muhammad bin Sirin:** Abu Huraira said, "Allah's Messenger (ﷺ) put me in charge of the Zakat of Ramadan (i.e. Zakat-ul-Fitr). Someone came to me and started scooping some of the foodstuff of (Zakat) with both hands. I caught him and told him that I would take him to Allah's Messenger (ﷺ)." Then Abu Huraira told the whole narration and added "He (i.e. the thief) said, 'Whenever you go to your bed, recite the Verse of "Al-Kursi" (2.255) for then a guardian from Allah will be guarding you, and Satan will not approach you till dawn.' " On that the Prophet (ﷺ) said, "He

96 Quran, Chapter 8(Al Anfal), verse 48

97 Sahih Al Bukhari, Book 9 Prayer (Salat), Chapter (100): The person offering Salat (prayer) should repulse that person who tries to pass in front of him, hadith 509

told you the truth, though he is a liar, and he (the thief) himself was the Satan."[98]

+ Abu Sa'id Khudri reported Allah's Messenger having said:

There is a group of jinns in Medina who accepted Islam, so he who would see anything from these occupants should warn him three times; and if he appears after that, he should kill him for he is a satan.[99]

The very evident conclusion from the above Islamic evidences is the fact that satan can reshape in to different shapes of humans, snakes and etc…. this fact is what most of the earlier scholars of Islam have extracted (may allah mercy them all). This means that devil can change its shape for example from a long one to a much shorter one and vice versa.

## Biofilms and reshaping:

# Beroz F, Yan J, Sabass B, Stone HA, Bassler BL, Wingreen NS, Meir Y. have stated: Biofilms are communities of bacteria adhered to surfaces. Recently, biofilms of rod-shaped bacteria were observed at single-cell resolution and shown to develop from a disordered, two-dimensional layer of founder cells into a three-dimensional structure with a vertically aligned core. Here, we elucidate the physical mechanism underpinning this transition using a combination of agent-based and continuum modelling. We find that verticalization proceeds through a series of localized mechanical instabilities on the cellular scale. For short cells, these instabilities are primarily triggered by cell division, whereas long cells are more likely to be peeled off the surface by nearby vertical cells, creating an 'inverse domino effect'. The interplay between cell growth and cell verticalization gives rise to an exotic mechanical state in which the effective surface pressure becomes constant throughout the growing core of the biofilm surface layer. [100]

# Gingichashvili S, Duanis-Assaf D, Shemesh M, Featherstone JDB, Feuerstein O, Steinberg D. have found: Biofilms are commonly defined as

98 Sahih Al Bukhari, Book 59 (beginning of creation), Chapter (11): The the characteristics of iblis(satan) and his soldiers, hadith 3275

99 Sahih Muslim, (39) the book of greetings, (37) chapter killing snakes ETC.., Hadith 2236c

100 Beroz F, Yan J, Sabass B, Stone HA, Bassler BL, Wingreen NS, Meir Y. Verticalization of bacterial biofilms. Nat Phys. 2018 Sep;14(9):954-960. doi: 10.1038/s41567-018-0170-4. Epub 2018 Jun 18. PMID: 30906420; PMCID: PMC6426328.

accumulations of microbes, embedded in a self-secreted, polysaccharide-rich extra-cellular matrix. This study aimed to characterize specific morphological changes that occur in *Bacillus subtilis* biofilms under nutrient-limiting growth conditions. Under varying levels of nutrient depletion, colony-type biofilms were found to exhibit different rates of spatial expansion and green fluorescent protein production. Specifically, colony-type biofilms grown on media with decreased lysogeny broth content exhibited increased spatial expansion and more stable GFP production over the entire growth period. By modeling the surface morphology of colony-type biofilms using confocal and multiphoton microscopy, we analyzed the appearance of distinctive folds or "wrinkles" that form as a result of lysogeny broth content reduction in the solid agar growth media. When subjected to varying nutritional conditions, the channel-like folds were shown to alter their morphology; growth on nutrient-depleted media was found to trigger the formation of large and straight wrinkles connecting the colony core to its periphery. To test a possible functional role of the formed channels, a fluorescent analogue of glucose was used to demonstrate preferential native uptake of the molecules into the channels' interiors which supports their possible role in the transport of molecules throughout biofilm structures.[101]

# Bridier A, Piard JC, Pandin C, Labarthe S, Dubois-Brissonnet F, Briandet R. have stated: Accordingly, it is clear that structural adjustments of biofilm clearly lead to both the modulation of phenotypic heterogeneity and the way each bacterium perceive its local microenvironment. This architectural plasticity provides thereby an efficient way to adapt to various stresses for microorganisms. Many demonstrations of this phenomenon occur in our environments as for instance, stream biofilms in rivers, which dynamically adapt and evolve in response to the streambed environment and flow intermittency through modifications of their physical structure, species composition and through spatial re-organization (Battin et al., 2016; Sabater et al., 2016). The intimate relation between architectural differentiation and community composition suggests that this micro-scale process is an important driver of the biofilm adaptation to the fluctuations

101 Gingichashvili S, Duanis-Assaf D, Shemesh M, Featherstone JDB, Feuerstein O, Steinberg D. The Adaptive Morphology of *Bacillus subtilis* Biofilms: A Defense Mechanism against Bacterial Starvation. Microorganisms. 2019 Dec 30;8(1):62. doi: 10.3390/microorganisms8010062. PMID: 31905847; PMCID: PMC7023499.

of stream conditions, especially to compensate hydrodynamic perturbations and changes in quantity and quality of nutrients (Besemer et al., 2009).[102]
These reviews and research clearly confirm that biofilms can adjust their spatial structure (3d shape) with different conditions.

## 3.9. The devil's brain, logic and the presence of specialization among cells of satan;

# Allah the most merciful have said: And surely, we have created many of the jinn and mankind for Hell. They have hearts wherewith they understand not, and they have eyes wherewith they see not, and they have ears wherewith they hear not (the truth). They are like cattle, nay even more astray; those! They are the heedless ones.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

Already have We urged unto hell many of the jinn and humankind, having hearts wherewith they understand not, and having eyes wherewith they see not, and having ears wherewith they hear not. These are as the cattle - nay, but they are worse! These are the neglectful.

— Pickthall[103]

The most obvious extraction that the writer can perform is that there is specialization among the cells of jinns. Some cells are specialized to function as sensory cells either auditory or visual. Other cells are specific for more control of these senses. Other cells are transporters for oxygen or other gases used in cellular respiaration (if there is a heart then there are carrier cells for oxygen and other gases that are used for cellular metabolism). Also, they have logic and thinking which means they have a nervous system. This leads to the fact that they must possess nerve like appendages to transfer the electrical impulses in the form of information.

102 Bridier A, Piard JC, Pandin C, Labarthe S, Dubois-Brissonnet F, Briandet R. Spatial Organization Plasticity as an Adaptive Driver of Surface Microbial Communities. Front Microbiol. 2017 Jul 20;8:1364. doi: 10.3389/fmicb.2017.01364. PMID: 28775718; PMCID: PMC5517491.

103 Quran, Chapter 7 (Al Aaraaf), Verse 179

## Specialization of cells among a single biofilm:

We have discaussed Previously that these biofilms can sense sound waves and light rays.

# Reguera G. has stressed the following facts: Geobacter bacteria are the only microorganisms known to produce conductive appendages or pili to electronically connect cells to extracellular electron acceptors such as iron oxide minerals and uranium. The conductive pili also promote cell-cell aggregation and the formation of electroactive biofilms. The hallmark of these electroactive biofilms is electronic heterogeneity, mediated by coordinated interactions between the conductive pili and matrix-associated cytochromes. Collectively, the matrix-associated electron carriers discharge respiratory electrons from cells in multilayered biofilms to electron-accepting surfaces such as iron oxide coatings and electrodes poised at a metabolically oxidizable potential. The presence of pilus nanowires in the electroactive biofilms also promotes the immobilization and reduction of soluble metals, even when present at toxic concentrations.[104]

# Majumdar S, Pal S. have discussed: This work quite efficiently demonstrates the importance of membrane potential in bacterial motility. This ion-channel mediated signaling procedure is blessed with rapid response in cell motility of even physically distant cells due to its independence on complex signaling network. Thus, as a result of distant species signaling, bacteria from a different species are attracted and become incorporated into a pre-existing biofilm. Thus, the complex coexistence of biofilm with its surrounding cross species network has to raise many intriguing aspects of signaling mechanism in the mysterious micro-organism world.

Although the chemical forms of cell-to-cell communication i.e., quorum sensing is well recognized now a days, this work opens up a new direction on the possibility to couple chemical signaling with the ion channel mediated electrical signaling. In 2015, a study by Prindle et al. have already suggested that to coordinate metabolism within biofilm, bacteria use potassium ion-channel-mediated electrical signaling mechanism. The

104 Reguera G. Microbial nanowires and electroactive biofilms. FEMS Microbiol Ecol. 2018 Jul 1;94(7). doi: 10.1093/femsec/fiy086. PMID: 29931163.

chemical signaling spontaneously turns off while this generic electrical signaling is on its way for cross species communication. As a result, chemical signaling or the quorum sensing halts within the biofilm through the electrical signaling mechanism. Thus, the effect of electrical signaling on the chemical signaling is the next chapter to explore in future.

The regulation of bacterial gene expression through quorum sensing mechanism is well known. Thus, the electrical communication between distant cells can have an impact on the bacterial gene expression. Apart from that, the effect of environmental noise on this efficient electrical signaling can promote diverse effects in bacterial communities.[105]

# Yang CY, Bialecka-Fornal M, Weatherwax C, Larkin JW, Prindle A, Liu J, Garcia-Ojalvo J, Süel GM. have dormulated: Cellular membrane potential plays a key role in the formation and retrieval of memories in the metazoan brain, but it remains unclear whether such memory can also be encoded in simpler organisms like bacteria. Here, we show that single-cell-level memory patterns can be imprinted in bacterial biofilms by light-induced changes in the membrane potential. We demonstrate that transient optical perturbations generate a persistent and robust potassium-channel-mediated change in the membrane potential of bacteria within the biofilm. The light-exposed cells respond in an anti-phase manner, relative to unexposed cells, to both natural and induced oscillations in extracellular ion concentrations. This anti-phase response, which persists for hours following the transient optical stimulus, enables a direct single-cell resolution visualization of spatial memory patterns within the biofilm. The ability to encode robust and persistent membrane-potential-based memory patterns could enable computations within prokaryotic communities and suggests a parallel between neurons and bacteria.[106]

# Abhijeet P. Borole, Gemma Reguera, Bradley Ringeisen, Zhi-Wu Wang, Yujie Feng and Byung Hong Kim have stated: Electroactive biofilms (EABFs) generated by electrochemically active microorganisms

105 Majumdar S, Pal S. Cross- species communication in bacterial world. J Cell Commun Signal. 2017 Jun;11(2):187-190. doi: 10.1007/s12079-017-0383-9. Epub 2017 Feb 20. PMID: 28220296; PMCID: PMC5440349.

106 Yang CY, Bialecka-Fornal M, Weatherwax C, Larkin JW, Prindle A, Liu J, Garcia-Ojalvo J, Süel GM. Encoding Membrane-Potential-Based Memory within a Microbial Community. Cell Syst. 2020 May 20;10(5):417-423.e3. doi: 10.1016/j.cels.2020.04.002. Epub 2020 Apr 27. PMID: 32343961; PMCID: PMC7286314.

have many potential applications in bioenergy and chemicals production. Biofilm electroactivity can have a significant impact on the yield and efficiency of the conversion processes. This review assesses the effects of process and design parameters on the growth and activity of biofilms in bioelectrochemical systems (BESs). First, we compare the role of planktonic and biofilm-forming microorganisms in BESs. The effect of physical, chemical, and electrochemical operating parameters such as flow rate, temperature, pH, ionic strength, substrate concentration and loading, external resistance, and redox potential on EABF attributes such as growth rate, exoelectrogen population, formation of extracellular polymeric substances, mediator synthesis, and rate of electron transfer are discussed. The relationship between electrochemical performance and operating parameters is also examined to identify gaps in assessment and the potential role of future modeling efforts. Similarly, we review what is currently known about the mechanisms that enable electroactive biofilms to transfer electrons and also the contribution of the electrical conductivity of the biofilms' exopolymeric components to BES performance. The current status of cathodic biofilms is also reviewed. Complementary approaches that use process control to optimize EABF composition and biomass density, while minimizing mass transfer effects and changes to system design parameters, are likely necessary to improve BES performance to a level needed for commercial consideration. Finally, future research needs that enable better understanding and optimization of the performance of EABFs are outlined.[107]

# Momeni B. has discussed: Division of labor — subpopulations performing different tasks simultaneously within an assembly — is pervasive in biology. In multicellular organisms, differentiation of cells into different tissues and organs is a clear example. Division of labor can happen among a group of individuals as well. In termite colonies, for instance, queens and kings are specialized for reproduction, workers forage and collect food, and soldiers primarily defend workers. Division of labor is an important concept, allowing a better understanding

[107] Abhijeet P. Borole, Gemma Reguera, Bradley Ringeisen, Zhi-Wu Wang, Yujie Feng and Byung Hong Kim, Electroactive biofilms: Current status and future research needs, ***Energy Environ. Sci.***, 2011,**4**, 4813-4834, DOI: https://doi.org/10.1039/C1EE02511B

of how complexity arises and is maintained in biological systems. A new study by Dragoš et al., published in this issue of Current Biology, aims to reveal the molecular mechanism used by a common soil bacterium and model system, *Bacillus subtilis*, to explain the division of labor amongst cells engaged in biofilm matrix production…….....Microbial assemblies, especially within a biofilm, are already known to demonstrate division of labor. In B. subtilis biofilms, for example, even a genetically clonal population gets divided into subpopulations with drastically different activities. Genetically similar cells in these biofilms differentiate into cells specialized for motility, matrix production, and sporulation, all of which are important for overall success of the biofilm. But how do the costs and benefits of division of labor for each cell favor the maintenance of such a scheme amongst individuals?

Revealing the mechanisms of how division of labor is implemented in a biological system is an important question. Take persistent microbial infections as an example: synergy among microbes through division of labor can make them more harmful to us. In chronic wounds, *Pseudomonas aeruginosa* and *Staphylococcus aureus* divide virulence tasks, making it harder for the immune system or antibiotics to suppress them. Similarly, in the lungs of humans with cystic fibrosis, the differentiation of *P. aeruginosa* is thought to make it harder to treat the infection.
It is challenging to tease apart how division of labor takes place in natural settings in which underlying mechanisms are often muddied by the multitude of unknowns and uncertainties about individuals, interactions, and the environment. Therefore, in the new study, Dragoš and colleagues focus on B. subtilis as a tractable system to explain the origination and maintenance of division of labor. The capability to monitor, control, and manipulate subpopulations in this system offers a direct way to mechanistically explore the maintenance of division of labor. Two techniques are primarily used: fluorescent markers are used to monitor the expression of relevant genes, and specific mutants are constructed to assess the impact of corresponding genes. This combination allows them to examine both genetic and phenotypic aspects of division of labor. [108]

108 Momeni B. Division of Labor: How Microbes Split Their Responsibility. Curr Biol. 2018 Jun 18;28(12):R697-R699. doi: 10.1016/j.cub.2018.05.024. PMID: 29920261.

# van Gestel J, Vlamakis H, Kolter R. have dicussed: The dense aggregation of cells on a surface, as seen in biofilms, inevitably results in both environmental and cellular heterogeneity. For example, nutrient gradients can trigger cells to differentiate into various phenotypic states. Not only do cells adapt physiologically to the local environmental conditions, but they also differentiate into cell types that interact with each other. This allows for task differentiation and, hence, the division of labor. In this article, we focus on cell differentiation and the division of labor in three bacterial species: Myxococcus xanthus, Bacillus subtilis, and Pseudomonas aeruginosa. During biofilm formation each of these species differentiates into distinct cell types, in some cases leading to cooperative interactions. The division of labor and the cooperative interactions between cell types are assumed to yield an emergent ecological benefit. Yet in most cases the ecological benefits have yet to be elucidated. A notable exception is M. xanthus, in which cell differentiation within fruiting bodies facilitates the dispersal of spores. We argue that the ecological benefits of the division of labor might best be understood when we consider the dynamic nature of both biofilm formation and degradation.[109]

# Beebout CJ, Eberly AR, Werby SH, Reasoner SA, Brannon JR, De S, Fitzgerald MJ, Huggins MM, Clayton DB, Cegelski L, Hadjifrangiskou M. have discussed: Cytochrome bd is a multifunctional protein that is central to respiration and can maintain activity in the face of nitrosative stress. As such, bacteria expressing cytochrome bd presumably exhibit a fitness advantage under growth conditions that are low in oxygen or high in metabolic by-products that increase nitric oxide concentration. The biofilm state, while protecting the bacterial residents from predation and desiccation, constitutes a high-density environment with several chemical gradients that result from the consumption and production of metabolites. Accordingly, expressing an enzyme that can facilitate tolerance to metabolic by-products, such as nitric oxide, would ensure that biofilm residents do not perish as a consequence of their own metabolic excretions. Our study elucidates the distribution of quinol oxidase expression in the biofilm state and indicates that the bulk of biofilm residents express cytochrome bd, particularly in the densely populated interior. The

109 van Gestel J, Vlamakis H, Kolter R. Division of Labor in Biofilms: the Ecology of Cell Differentiation. Microbiol Spectr. 2015 Apr;3(2):MB-0002-2014. doi: 10.1128/microbiolspec.MB-0002-2014. PMID: 26104716.

cytochrome bd-expressing bacteria are not necessarily using cytochrome bd for respiration, as many of them also have low levels of cytochrome bo and bd2 transcripts. Rather, the production of cytochrome bd may be leveraged toward providing tolerance to nitrosative stress, which irreversibly inhibits cytochrome bo. Indeed, in ΔcydAB biofilms we observe a marked increase in cytochrome bo expression (Fig. 4H), suggesting that loss of cytochrome bd impairs nitric oxide tolerance and that increased production of cytochrome bo may be a compensatory mechanism that allows biofilm bacteria to respire in the presence of high levels of nitric oxide.[110]

# Humphries J, Xiong L, Liu J, et al. (2017) have found: "Bacteria residing within biofilm communities can coordinate their behavior through cell-to-cell signaling. However, it remains unclear if these signals can also influence the behavior of distant cells that are not part of the community. Using a microfluidic approach, we find that potassium ion channel-mediated electrical signaling generated by a Bacillus subtilis biofilm can attract distant cells. Integration of experiments and mathematical modeling indicates that extracellular potassium emitted from the biofilm alters the membrane potential of distant cells, thereby directing their motility. This electrically-mediated attraction appears to be a generic mechanism that enables cross-species interactions, as Pseudomonas aeruginosa cells also become attracted to the electrical signal released by the B. subtilis biofilm."[111]

This research is a clear indication of long range electrical signaling.

# Westerhoff, Hans & Brooks, Aaron & Simeonidis, Vangelis & García-Contreras, Rodolfo & He, Fei & Boogerd, Fred & Jackson, Victoria & Goncharuk, Valeri & Kolodkin, Alexey. (2014) have summarized: "Living organisms persist by virtue of complex interactions among many components organized into dynamic, environment-responsive networks that span multiple scales and dimensions. Biological networks constitute a

110 Beebout CJ, Eberly AR, Werby SH, Reasoner SA, Brannon JR, De S, Fitzgerald MJ, Huggins MM, Clayton DB, Cegelski L, Hadjifrangiskou M. Respiratory Heterogeneity Shapes Biofilm Formation and Host Colonization in Uropathogenic Escherichia coli. mBio. 2019 Apr 2;10(2):e02400-18. doi: 10.1128/mBio.02400-18. PMID: 30940709; PMCID: PMC6445943.

111 Humphries J, Xiong L, Liu J, et al. Species-Independent Attraction to Biofilms through Electrical Signaling. *Cell*. 2017;168(1-2):200–209.e12. doi:10.1016/j.cell.2016.12.014

type of information and communication technology (ICT): they receive information from the outside and inside of cells, integrate and interpret this information, and then activate a response. Biological networks enable molecules within cells, and even cells themselves, to communicate with each other and their environment. We have become accustomed to associating brain activity – particularly activity of the human brain – with a phenomenon we call "intelligence." Yet, four billion years of evolution could have selected networks with topologies and dynamics that confer traits analogous to this intelligence, even though they were outside the intercellular networks of the brain. Here, we explore how macromolecular networks in microbes confer intelligent characteristics, such as memory, anticipation, adaptation and reflection and we review current understanding of how network organization reflects the type of intelligence required for the environments in which they were selected. We propose that, if we were to leave terms such as "human" and "brain" out of the defining features of "intelligence," all forms of life – from microbes to humans – exhibit some or all characteristics consistent with "intelligence."[112]

The aforementioned research, reviews and meta-analysis have clearly confirmed the following: there are electrically bioactive biofilms among which electrical signals transfer information from cells to much distant unrelated cells in the biofilm. This is very much similar to the nervous appendages in the mammalian and eukaryotes but in a simpler way. The other research affirms that even with a single cell ancertor then there is differentiation of labor among same phenotypic cells. This means that there is specialization among cells in the biofilm.

## 3.10. Hands of satan

**+ Salim, on the authority of his father, reported Allah's Messenger (ﷺ) as saying:** None of you should eat with his left hand and drink with that (left hand), for the Satan eats with left hand and drinks with that (hand). Nafi' has made this addition in that:" Do not take up anything with that (left

112 Westerhoff, Hans & Brooks, Aaron & Simeonidis, Vangelis & García-Contreras, Rodolfo & He, Fei & Boogerd, Fred & Jackson, Victoria & Goncharuk, Valeri & Kolodkin, Alexey. (2014). Macromolecular networks and intelligence in microorganisms. Frontiers in Microbiology. 5. 379. 10.3389/fmicb.2014.00379.

hand) and do not give anything with that"; and in the narration transmitted on the authority of Abu Tahir there is a slight variation of wording.[113]
Here we can notice that hands of a satan are being used for the purpose of consuming food and drinks. These are actual hands but of different shapes than those owned by humans. Moreover, these can be used as mechanical tools.

## Do biofilms have mechanical components used for food?

# Stewart PS has founded: One way that a biofilm infection persists is by withstanding the flow of fluid or other mechanical forces that work to wash or sweep microorganisms out of the body. The fundamental criterion for mechanical persistence is that the biofilm failure strength exceeds the external applied stress. Mechanical failure of the biofilm and release of planktonic microbial cells is also important in vivo because it can result in dissemination of infection. The fundamental criterion for detachment and dissemination is that the applied stress exceeds the biofilm failure strength. The apparent contradiction for a biofilm to both persist and disseminate is resolved by recognizing that biofilm material properties are inherently heterogeneous. There are also mechanical aspects to the ways that infectious biofilms evade leukocyte phagocytosis. The possibility of alternative therapies for treating biofilm infections that work by reducing biofilm cohesion could: 1) allow prevailing hydrodynamic shear to remove biofilm, 2) increase the efficacy of designed interventions for removing biofilms, 3) enable phagocytic engulfment of softened biofilm aggregates, and 4) improve phagocyte mobility and access to biofilm.[114]

#L. Karygianni, Z. Ren, H. Koo, T. Thurnheer, have found: [115]

113 Sahih Muslim, (36) The Book of Drinks, (13) Chapter: The etiquette of eating and drinking, and rulings thereon, Hadith 2020c

114 Stewart PS. Biophysics of biofilm infection. Pathog Dis. 2014 Apr;70(3):212-8. doi: 10.1111/2049-632X.12118. Epub 2014 Jan 16. PMID: 24376149; PMCID: PMC3984611.

115 Karygianni L, Ren Z, Koo H, Thurnheer T. Biofilm Matrixome: Extracellular Components in Structured Microbial Communities. Trends Microbiol. 2020 Aug;28(8):668-681. doi: 10.1016/j.tim.2020.03.016. Epub 2020 Apr 21. PMID: 32663461.

Table 1. Composition and Functions of Extracellular Polymeric Substances (EPS) in Biofilms from Some Model Organisms

| Class | Microorganism[a] | Name | Location | Function |
|---|---|---|---|---|
| Polysaccharides | *Bacillus subtilis* | *epsA-epsO* operon-encoded exopolysaccharide | Extracellular | Adhesion, scaffolding, stability |
| | | γ-PGA (poly-γ-glutamate) | Extracellular | Adhesion, scaffolding, sorption, nutrient |
| | *Staphylococcus aureus* | Polysaccharide intercellular adhesin (PIA) or poly-β (1-6)-*N*-acetylglucosamine (PNAG) | Extracellular | Adhesion, cohesion, scaffolding, stability, protection against antibiotics |
| | *Streptococcus mutans* | Glucans/fructans | Extracellular/cell-associated | Adhesion, cohesion, scaffolding, stability, cell-to-cell binding, acidic microenvironment, protection against antimicrobials, nutrient |
| | *Pseudomonas aeruginosa* | Psl | Extracellular/cell-associated | Adhesion, scaffolding, stability, protection against immune response, cell-to-cell binding |
| | | Pel | Extracellular/cell-associated | Adhesion, scaffolding, stability, cell-to-cell binding, protection against antibiotics |
| | | Alginate | Extracellular | Adhesion, scaffolding, water/nutrient retention, protection against harsh environments/immune response/antimicrobials, stability |
| | *Vibrio cholerae* | *Vibrio* polysaccharide (VPS) | Extracellular/cell-associated | Adhesion, cohesion, scaffolding, stability |
| | *Candida albicans* | α-mannans | Extracellular<br>Cell wall | Forming mannan-glucan complex (MGCx), scaffolding, protection, antifungal resistance, bacterial–fungal interaction |
| | | β-glucans | Extracellular<br>Cell wall | Forming mannan-glucan complex (MGCx), scaffolding, protection, antifungal resistance, bacterial–fungal interaction |
| Proteins | *Bacillus subtilis* | Biofilm surface layer protein (BslA) | Extracellular | Surface hydrophobicity, protection |
| | | Translocation-dependent antimicrobial spore component (TasA)/TasA anchoring and assembly protein (TapA) | Extracellular<br>Cell wall | Scaffolding, cell-to-cell binding |
| | | Flagellum | Cell-associated | Adhesion, motility, mechanosensing |
| | *Staphylococcus aureus* | Fibronectin-binding proteins (FnBPs) | Cell-associated/extracellular | Adhesion, cell-to-cell binding |
| | | Staphylococcal Protein A (SpA) | Cell-associated/extracellular | Adhesion, cell-to-cell binding, immune evasion |
| | | *S. aureus* surface protein G (SasG) | Cell-associated/extracellular | Adhesion, cell-to-cell binding |
| | | Biofilm associated protein (BAP) | Extracellular | Adhesion, cell-to-cell binding, scaffolding, stability |
| | | Phenol-soluble modulins (PSMs) | Extracellular | Proinflammatory, lysing of host cells, biofilm spreading, scaffolding |
| | | Glucosyltransferases (Gtf)/ fructosyltransferases (Ftf) | Cell-associated/extracellular | EPS production |

Table 1. (continued)

| Class | Microorganism[a] | Name | Location | Function |
|---|---|---|---|---|
| | *Vibrio cholerae* | Biofilm-associated protein (Bap1) | Cell-associated/extracellular | Adhesion, scaffolding, hydrophobicity, stability, protection |
| | | Rugosity and biofilm modulators (RbmA/RbmC) | Cell-associated/ extracellular | RbmA: cell-to-cell binding RbmC: scaffolding, stability |
| | | Mannose-sensitive hemagglutinin (MSHA) pili | Cell-associated | Adhesion, motility, mechanosensing |
| | | Flagellum | Cell-associated | Adhesion, motility, mechanosensing |
| | *Candida albicans* | Agglutinin-like sequence protein (Als) | Cell wall | Adhesion, cell-to-cell binding, bacterial-fungal interaction |
| | | Hyphal wall proteins (Hwp) | Cell wall | Adhesion, cell-to-cell binding |
| | | Heat-shock proteins (Hsp70) | Cell-associated/ extracellular | Unknown function in EPS |
| | | Functionally classified enzymes | Extracellular | Metabolism of carbohydrate/amino acid/lipid/nucleotide/energy/vitamins, translation, transport, catabolism, folding, sorting, replication, and repair |
| Nucleic acids | Wide distribution in bacteria, archaea, and fungi | eDNA | Extracellular | Scaffolding, adhesion, cohesion, nutrient source, DNA damage repair, gene transfer, interaction with other matrix components |
| Lipids | *Candida albicans* | Glycerolipids, sphingolipids | Cell-wall/extracellular | Unknown |
| | *Staphylococcus aureus* | Teichoic and lipoteichoic acids | Cell-associated/extracellular | Adhesion, cohesion, protection, immune evasion |
| Lipopolysaccharides | Wide distribution in Gram-negative bacteria | LPS (endotoxin) | Cell-associated/extracellular | Adhesion, colonization and host invasion, activation of immune response |

[a]Additional details about the EPS components, including from other microbes (such as *Escherichia coli*) can be found in the following references [3,5,16,18–20,97–100].

Image 10. From L. Karygianni, Z. Ren, H. Koo, T. Thurnheer,

Here in this research, we can find that different extracellular matrix components can function as mechanical apparatus for nutrient, water retention and for scaffolding.

## 3.11. The horn of devils :

It is very popular that devils have horns.

### 3.11.1. Do all jinns have horns:

+ Allah the greatest has stated: The shoots of its fruit-stalks are like the heads of Shayâtîn (devils);

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

Its crop is as it were the heads of devils

— Pickthall [116]

+ **Narrated Ibn `Umar:** Allah's Messenger (ﷺ) said, "When the (upper) edge of the sun appears (in the morning), don't perform a prayer till the sun appears in full, and when the lower edge of the sun sets, don't perform a prayer till it sets completely. And you should not seek to pray at sunrise or

116 Quran, Chapter 37(As-Saffat), verse 65

sunset for the sun rises between two sides of the head of the devil (or Satan). [117]

In arabic the saying narrates: is between the two qarns of satan. Qarn means= horns. It is obvious that animal and those who possess horns can use them as weapons. Therefore, horns are the most effective weaponary of satan and his cult against other species. At the end, the horns are only possessed by the infidels and atheists of the jinnis.

### 3.11.2. Trials and the horn of satan:

+ **Narrated `Abdullah bin `Umar:** I saw Allah's Messenger (ﷺ) pointing towards the east saying, "Lo! Afflictions will verily emerge hence; afflictions will verily emerge hence where the (side of the head of) Satan appears."[118]

In arabic the hadith is that: the horns of satan will appear from the east. We all know that the horns are related to trials= infections and others.

One can postulate that the horn is a part of satan's body. Also, not all jinns have horns attached to their head or body. Only, satans (or those who are infidels) possess these horns. Therefore, inside a satan's body one can find cells or the basic structure of these horns. This mean that these basic structures of the horns are the body parts for the attack of satan against other species (other jinns and their animals and humans race and their animals). Moreover, other verses will come later that horns can be used to harm humans other than infection like envy and magic. Also, one can postulate that horns are skin (exterior) appandages like human hairs. This in turn means that these structures are nucleusless and are partly viable like hair as they grow on other living corpuses.

## Can viruses be an active part of the biofilms?

### a. Viruses can form biofilms themselves:

# Thoulouze MI, Alcover A. (2011) have proposed: "The recent finding that the human T-cell leukemia virus type 1 (HTLV-1) encases itself in a carbohydrate-rich adhesive extracellular 'cocoon', which enables its efficient and protected transfer between cells, unveiled a new infectious

117Sahih AlBukhari, Book 59 Beginning of Creation, (11) Chapter: The characteristics of Iblis (Satan) and his soldiers, hadith 3272 and 3273

118 Sahih al-Bukhari , Book 59 Beginning of Creation, (11) Chapter: The characteristics of Iblis (Satan) and his soldiers, Hadith 3279

entity and a novel mechanism of viral transmission. These HTLV-1 structures are observed at the surface of T cells from HTLV-1-infected patients and are reminiscent of bacterial biofilms. The virus controls the synthesis of the matrix, which surrounds the virions and attaches them to the T cell surface. We propose that, similar to bacterial biofilms, viral biofilms could represent 'viral communities' with enhanced infectious capacity and improved spread compared with 'free' viral particles, and might constitute a key reservoir for chronic infections."[119]

b. Moreover, viruses Not only can form biofilm, but they can be active members of the biofilms.

# Alexandra T.Payne, Abigail J.Davidson, JinjunKan, MarcPeipoch, RavenBier, KurtWilliamson· (2020) have concluded: "Our results suggest that viruses are relevant members of biofilm communities in freshwater environments throughout all stages of biofilm growth observed in this study. While community-level profiling of biofilm viruses still requires refinement, preliminary assessments suggest temporal changes in biofilm viral communities coupled to biofilm growth and maturation. This, in turn, suggests that viruses are active and participating members of biofilm communities, with the potential to influence community abundance, composition, and functionality with potential implications at the ecosystem level. "[120]

Therefore, one can assume that viruses can be active members of the biofilm communities. Besides, there are few researches that show that viruses and bacteria can be partners most of the times of infection.eg.

# Neu U, Mainou BA. (2020) writers have said: "Microbes and microbial products can directly interact with viral particles. Our understanding of how the microbiota impacts virus infection is largely limited to the bacterial component of the microbiota. Although bacteria do not support eukaryotic virus infection, they can promote viral fitness by enhancing virion stability, promoting infection of eukaryotic cells, and increasing coinfection rates. Virus binding of bacteria can also impact bacterial

119 Thoulouze MI, Alcover A. Can viruses form biofilms? Trends Microbiol. 2011 Jun;19(6):257-62. doi: 10.1016/j.tim.2011.03.002. Epub 2011 Mar 31. PMID: 21458997.

**120** Alexandra T.Payne, Abigail J.Davidson, JinjunKan, MarcPeipoch, RavenBier, KurtWilliamson· Widespread cryptic viral infections in lotic biofilms. Biofilm, Volume 2, December 2020, 100016. https://doi.org/10.1016/j.bioflm.2019.100016

biology, including bacterial adherence to eukaryotic cells. These interactions can also indirectly affect the host response to viral infection." [121]

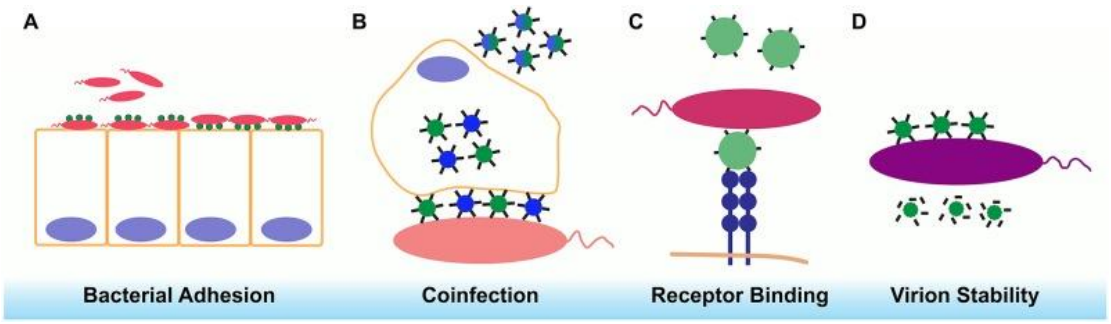



Image 11. Neu U, Mainou BA. (2020)

- Direct and indirect impact of biofilms on viral infection has been recorded and the opposite also.

### c. They can used as weapon by the biofilm

# Matthew C. Bond, Lucia Vidakovic, et al have stated: We have demonstrated that matrix-embedded phages can remain infectious on the biofilm surface and kill newly arriving bacteria. In this sense, biofilm-dwelling microbes, by trapping phages on their exterior, can weaponize them against incoming phage-susceptible cells. On the other hand, if invading E. coli attach to a resident biofilm and have sufficient time to become entangled in the curli matrix, they too gain protection from subsequent phage exposure. This protection is obtained by indirect exploitation of the resident biofilm's curli matrix: invading cells did not significantly use resident-produced curli monomers to polymerize curli on their own exterior, but rather became sufficiently enveloped in curli-producing groups of resident biofilm cells that they were no longer exposed to an incoming phage attack. Our observations bear an interesting analogy to those results of Barr et al., who found that phages trapped in host mucosal linings can kill incoming bacteria. We speculate on the basis of our results here that phage entrapment and their blocking effect against bacterial colonization is important not just in host associated mucosal environments but even more broadly to many biofilm contexts in which

121 Neu U, Mainou BA. Virus interactions with bacteria: Partners in the infectious dance. PLoS Pathog. 2020 Feb 11;16(2):e1008234. doi: 10.1371/journal.ppat.1008234. PMID: 32045465; PMCID: PMC7012391.

phage-trapping matrix material could potentially influence the pattern of community succession.[122]

### d. Covid cases appeared in China first which is east.

On the other hand, the covid-19 had appeared from the east which is china.

Phages are viruses killing bacteria. Also, this research has found that viruses can be found on the exterior of the biofilm and can be used as a weapon.

## 3.12. Animals and beasts of devils:

**+ Dawud reported from 'Amir who said:** I asked 'Alqama if Ibn Mas'ud was present with the Messenger of Allah (ﷺ) on the night of the Jinn (the night when the Prophet met them). He (Ibn Mas'uad) said: No, but we were in the company of the Messenger of Allah (ﷺ) one night and we missed him. We searched for him in the valleys and the hills and said. He has either been taken away (by jinn) or has been secretly killed. He (the narrator) said. We spent the worst night which people could ever spend. When it was dawn, we saw him coming from the side of Hiri'. He (the narrator) reported. We said: Messenger of Allah, we missed you and searched for you, but we could not find you and we spent the worst night which people could ever spend. He (the Holy Prophet) said: There came to me an inviter on behalf of the Jinn and I went along with him and recited to them the Qur'an. He (the narrator) said: He then went along with us and showed us their traces and traces of their embers. They (the Jinn) asked him (the Holy Prophet) about their provision (food) and he said: Every bone on which the name of Allah is recited is your provision. The time it will fall in your hand it would be covered with flesh, and the dung of (the camels) is fodder for your animals. The Messenger of Allah (ﷺ) said: Don't perform istinja with these (things) for these are the food of your brothers (Jinn).[123]

This prophetic saying indicates that jinns have animals and beasts of a nature or structure close to that of the jinns. This means that the cells of the

122 Matthew C. Bond, Lucia Vidakovic, Praveen K. Singh, Knut Drescher, Carey D. Nadell, Matrix-trapped viruses can protect bacterial biofilms from invasion by colonizing cells, bioRxiv 2020.10.28.358952; doi: https://doi.org/10.1101/2020.10.28.358952

123 Sahih Muslim, (4) The Book of prayers, (33) Chapter: Reciting Out Aloud In As-Subh And Reciting To The Jinn, Hadith no. 450a.

animals and the animals' biofilms of jinn would be transparent. Moreover, they are found on animals' faeces or dungs. Furthermore, animals usually obey their masters' commands. This inturn, means that parasites and fungi and cells other than bacteria and viruses like amoeba or a paramecium can be classified as bodily cells of (Jinns' animals). We further, indicated that bacterial cells of the biofilms are the bodily cells of the jinn. Therefore, the above hadith means that bacterial biofilms can control fungal biofilms. Also, they can be found together as the fungal biofilms are the rides (animals) of the bacterial biofilms(jinns).

### a. Fungi can also form biofilms:

# Fanning S, Mitchell AP (2012) have said:" Biofilms are a principal form of microbial growth and are critical to development of clinical infection. They are responsible for a broad spectrum of microbial infections in the human host. Many medically important fungi produce biofilms, including Candida, Aspergillus, Cryptococcus, Trichosporon, Coccidioides, and Pneumocystis. In this review we emphasize common features among fungal biofilms, and point toward genes and pathways that may have conserved roles."[124]

The above research indicate that fungi can produce biofilms which means that the cells of the fungi are surrounded by ECM. Furthermore, direct bacterial and fungal relations and interaction have been recorded.

# Deveau A, Bonito G, Uehling J, Paoletti M, Becker M, Bindschedler S, Hacquard S, Hervé V, Labbé J, Lastovetsky OA, Mieszkin S, Millet LJ, Vajna B, Junier P, Bonfante P, Krom BP, Olsson S, van Elsas JD, Wick LY (2018) have explained: "Fungi and bacteria are found living together in a wide variety of environments. Their interactions are significant drivers of many ecosystem functions and are important for the health of plants and animals. A large number of fungal and bacterial families engage in complex interactions that lead to critical behavioural shifts of the microorganisms ranging from mutualism to antagonism. The importance of bacterial–fungal interactions (BFI) in environmental science, medicine and biotechnology has led to the emergence of a dynamic and multidisciplinary research field that combines highly diverse approaches

124 Fanning S, Mitchell AP. Fungal biofilms. PLoS Pathog. 2012;8(4):e1002585. doi: 10.1371/journal.ppat.1002585. Epub 2012 Apr 5. PMID: 22496639; PMCID: PMC3320593.

including molecular biology, genomics, geochemistry, chemical and microbial ecology, biophysics and ecological modelling. In this review, we discuss recent advances that underscore the roles of BFI across relevant habitats and ecosystems ".[125]

**b. As for parasites few experiments have been undertaken to analyze and detect the relationship between parasites and bacteria.**

+ Romoli, O., Gendrin, M (2018) have elaborated: "In the past 20 years, the pivotal role of the mosquito microbiota in shaping *Plasmodium* infection and transmission has gradually emerged. However, the tripartite interaction between the mosquito, its microbiota and the parasite is a complex relationship that still needs further investigation. In general, the microbiota was found to reduce *Plasmodium* infection and to impact several physiological aspects of the mosquito, notably affecting its lifespan. Surprisingly, these effects induced by the microbiota were consistent almost irrespective of the *Anopheles* and *Plasmodium* species, suggesting that this tripartite interaction is a stable system in which each component plays a role."126

These above studies indicate that most of the infectious species are multicellular, dispersed in extracellular matrices and have some kind of relation with other species inside the biofilm. This inturn is a very strong indicative clue for the specialization of different cells within one biofilm.

# Meyer S, Thiel V, Joergensen RG, Sundrum A; has discussed Fungal biomass indices: According to the PLFA (phospholipid fatty acid) and amino sugar data, fungi contribute roughly 20% to the total faecal microbial biomass of the dairy cows recorded in the current study. The considerable contribution of fungi is often neglected, especially in ruminant faeces. The PLFA and amino sugar data are in line with an ergosterol to fungal GlcN ratio of 47, which is roughly half of the ratio observed by Jost et al... Ergosterol is specific for Ascomycota, i.e., many

125 Deveau A, Bonito G, Uehling J, Paoletti M, Becker M, Bindschedler S, Hacquard S, Hervé V, Labbé J, Lastovetsky OA, Mieszkin S, Millet LJ, Vajna B, Junier P, Bonfante P, Krom BP, Olsson S, van Elsas JD, Wick LY. Bacterial-fungal interactions: ecology, mechanisms and challenges. FEMS Microbiol Rev. 2018 May 1;42(3):335-352. doi: 10.1093/femsre/fuy008. PMID: 29471481.

126 Romoli, O., Gendrin, M. The tripartite interactions between the mosquito, its microbiota and *Plasmodium*. *Parasites Vectors* **11,** 200 (2018). https://doi.org/10.1186/s13071-018-2784-x

yeasts, and for Basidiomycota, i.e., many lignin and cellulose decomposing fungi, but also for Mucor plumbeus.[127]

This research indicates that faeces of ruminant animals (buffalo, goat, shee and many others) contain a respectable number of fungal cells.

# Ippolito MM, Denny JE, Langelier C, Sears CL, Schmidt NW. have stated: The microbiome influences malaria parasite fitness and transmission efficiency in mosquitoes and appears to affect malaria dynamics in mammalian hosts as well. Nascent research examining the interrelationship of malaria and the mammalian microbiome has yielded interesting insights inviting further study.
Results
Ten relevant studies were identified. They demonstrate associations between certain intestinal communities and protection against Plasmodium infection and modulation of disease severity. Plasmodium infection acutely and reversibly reshapes gut microbial composition in mice. The makeup of human skin microbial communities may influence mosquito attraction and thus disease transmission.
Conclusions
Early research supports a relationship between malaria and the microbiome. The evidence is incomplete, but the observed associations are evocative and signal a promising avenue of inquiry. Microbiome-based studies of malaria can be readily integrated into field-based research.[128]

# Debanjan Mukherjee, Ângelo Ferreira Chora, Maria M. Mota have found out: The influence of the microbiota on homeostasis of the metaorganism has recently taken center stage. Notably, its contribution to malaria infections has only now started to emerge.
Recent studies have shown that infection by Plasmodium, the causative agent of malaria, induces alterations in the composition of the gut microbiota. Moreover, studies in both humans and mice indicate that

127 Meyer S, Thiel V, Joergensen RG, Sundrum A. Relationships between feeding and microbial faeces indices in dairy cows at different milk yield levels. PLoS One. 2019 Aug 20;14(8):e0221266. doi: 10.1371/journal.pone.0221266. PMID: 31430322; PMCID: PMC6701754.
128 Ippolito MM, Denny JE, Langelier C, Sears CL, Schmidt NW. Malaria and the Microbiome: A Systematic Review. Clin Infect Dis. 2018 Nov 28;67(12):1831-1839. doi: 10.1093/cid/ciy374. PMID: 29701835; PMCID: PMC6260159.

certain gut bacterial communities correlate with risk of malaria infection. However, the putative mechanism(s) underlying this phenomenon is still not understood.

While state-of-the-art research focuses on unraveling host–pathogen interactions, we envision a new concept, where a three-way axis, host–pathogen–microbiota, becomes central to understanding malaria and other infectious diseases.[129]

These research and studies indicate that some types of bacteria are related with malaria infection. That means they might have some sort of control over plasmodium. Also, the microbiota controls the severity of infection with plasmodium.

## 3.13. Nations of satan

### 3.13.1. The atheist jinn and those with a deity are in war (the battle among the jinns themselves):

+ Allah the greatest of all (his majesty) has said: 'There are among us some that are righteous, and some the contrary; we are groups having different ways (religious sects).

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

And among us there are righteous folk and among us there are far from that. We are sects having different rules.

— Pickthall [130]

+ Allah the King of all kings has stated: 'And of us some are Muslims (who have submitted to Allâh, after listening to this Qur'ân), and of us some are Al-Qâsitûn (disbelievers - those who have deviated from the Right Path)'. And whosoever has embraced Islâm (i.e. has become a Muslim by submitting to Allâh), then such have sought the Right Path."

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

And there are among us some who have surrendered (to Allah) and there are among us some who are unjust. And whoso hath surrendered to Allah, such have taken the right path purposefully.

— Pickthall [131]

129 Debanjan Mukherjee, Ângelo Ferreira Chora, Maria M. Mota, Microbiota, a Third Player in the Host–Plasmodium Affair, Trends in Parasitology, Volume 36, Issue 1, 2020, Pages 11-18, ISSN 1471-4922, https://doi.org/10.1016/j.pt.2019.11.001.

130 Quran, Chapter 72(Al Jinn), verse 11

131 Quran, Chapter 72(Al Jinn), verse 14

+ Allah the only God be exalted has stated: And [mention, O Muḥammad], when your Lord said to the angels, "Indeed, I will make upon the earth a successive authority."[1] They said, "Will You place upon it one who causes corruption therein and sheds blood, while we exalt You with praise and declare Your perfection?"[2] He [Allah] said, "Indeed, I know that which you do not know."

— Saheeh International [132]

The most obvious acquisitions from these verses are:

1. Jinns are of different sects (believers and disbelievers, righteous and unrighteous).

2. The angels have asked **Allah** why do you create man whose going to shed blood. This assumption was made as angels have seen jinns and satans who Allah have created before mankind have shed blood among themselves and other species. Therefore, one obvious weapon is the horn of satan. In war beleivers can win or die. Accordingly, the horns can be used as weapons against the body of other jinns (bacteria) and the animals (fungi, plasmodium etc..) of those emenies. On the other hands, horns of the devils, their body cells can be attacked by other jinns' body cells and or the bodily cells of their animals. Not even that the bodily cells of Jinns (devoid of horns) can attack other jinns (devoid of horns) and their animals.

### 3.13.2. Tribes and armies of satan:

The evidences prove that the presence of rankings, troops, infantry and cavalry among the individuals of the Jinns are indisputable facts:

+ Allah the greastest and the highest has said: And befool them gradually those whom you can among them with your voice (i.e., songs, music, and any other call for Allâh's disobedience), make assaults on them with your cavalry and your infantry, share with them wealth and children (by tempting them to earn money by illegal ways - usury, or by committing illegal sexual intercourse), and make promises to them." But Satan promises them nothing but deceit.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[133]

132 Quran, Chapter 2(Al Baqarah), verse 30
133 Quran, Chapter 17 (Al Israa), verse 64

+ Jabir reported that Allaah's Messenger (peace and blessings on him) said:" iblis places his throne upon water; he then sends detachments (for creating dissension); the nearer to him in rank are those who are most notorious in creating dissension. One of them comes and says: I did so and so. And he says: You have done nothing. Then one amongst them comes and says: I did not spare so and so until I sowed the seed of discord between a husband and a wife. The Satan goes near him and says: 'You have done well. A'mash said: He then embraces him."[134]

These two evidences clearly denote that there is a division of labor among the single units of jinns. Also, denote the division of labour among the larger comunnities. Also, that there are ones that can cause more harm than other jinns.

**Biofilms and the killing among the components of different biofilms:**

# Barzegari A, Kheyrolahzadeh K, Hosseiniyan Khatibi SM, Sharifi S, Memar MY, Zununi Vahed S. have mentioned: There have been avenues to tackle biofilms largely based on the disruption of their adhesion and maturation. Nowadays, the use of probiotics and their derivatives has gained a growing interest in battling against pathogenic biofilms. In the present review, we have a close look at probiotics with the ultimate objective of inhibiting biofilm formation and maturation. Overall, insights into the mechanisms by which probiotics and their derivatives can be used in the management of biofilm infections would be warranted. [135]

Probiotics may contain a variety of microorganisms. The most common are bacteria that belong to groups called Lactobacillus and Bifidobacterium. Other bacteria may also be used as probiotics, and so may yeasts such as Saccharomyces boulardii.[136]

# Sandeep Miryala, Veena G Nair, S Chandramohan, C S Srinandan, have found: Here we show that interference in biofilm matrix production is a

**134** Sahih Muslim, book (52) Characteristics of the Day of Judgment, Paradise, and Hell, (16) Chapter: The Mischief Of The Shaitan And How He Sends His Troops To Tempt People, And With Every Person There Is A Qarin (Companion From Among The Jinn), hadith no. 2813b.

135 Barzegari A, Kheyrolahzadeh K, Hosseiniyan Khatibi SM, Sharifi S, Memar MY, Zununi Vahed S. The Battle of Probiotics and Their Derivatives Against Biofilms. Infect Drug Resist. 2020 Feb 26;13:659-672. doi: 10.2147/IDR.S232982. PMID: 32161474; PMCID: PMC7049744.

136 https://www.nccih.nih.gov/health/probiotics-what-you-need-to-know

strategy by the competing bacterial species to reduce the ability of the other species to colonize a surface. Escherichia coli colonies that differ in matrix production display different morphologies on Congo red agar media, which we exploited for screening bacterial isolates capable of inhibiting the matrix. The cell-free supernatants from growth culture of the screened isolates impaired uropathogenic E. coli (UPEC) UTI89 strain's biofilm. A physicochemical analysis suggested that the compound could be a glycopeptide or a polysaccharide. Isolates that inhibited matrix production belonged to species of the family Enterobacteriaceae such as Shigella, Escherichia, Enterobacter and Salmonella. Competition experiments between the isolates and the UPEC strain resulted in mutual inhibition, particularly during biofilm formation causing significant reduction in productivity and fitness. Furthermore, we show that Salmonella strains competitively excluded the UPEC strain in the biofilm by inhibiting its matrix production, highlighting the role of interference competition.[137]

# Bratanis E, Andersson T, Lood R, Bukowska-Faniband E. have found: *Bdellovibrio* and like organisms (BALOs) are obligate predatory bacteria that selectively prey on a broad range of Gram-negative bacteria, including multidrug-resistant human pathogens. Due to their unique lifestyle, they have been long recognized as a potential therapeutic and biocontrol agent. Research on BALOs has rapidly grown over the recent decade, resulting in many publications concerning molecular details of bacterial predation as well as applications thereof in medicine and biotechnology.[138]

# Atterbury RJ, Tyson J. have written: Antimicrobial resistance (AMR) is a global health and economic crisis. With too few antibiotics in development to meet current and anticipated needs, there is a critical need for new therapies to treat Gram-negative infections. One potential approach is the use of living predatory bacteria, such as *Bdellovibrio bacteriovorus* (small Gram-negative bacteria that naturally invade and kill Gram-negative pathogens of humans, animals and plants). Moving toward

137 Sandeep Miryala, Veena G Nair, S Chandramohan, C S Srinandan, Matrix inhibition by Salmonella excludes uropathogenic E. coli from biofilm, FEMS Microbiology Ecology, Volume 97, Issue 1, January 2021, fiaa214, https://doi.org/10.1093/femsec/fiaa214

138 Bratanis E, Andersson T, Lood R, Bukowska-Faniband E. Biotechnological Potential of *Bdellovibrio* and Like Organisms and Their Secreted Enzymes. Front Microbiol. 2020 Apr 15;11:662. doi: 10.3389/fmicb.2020.00662. PMID: 32351487; PMCID: PMC7174725.

the use of *Bdellovibrio* as a 'living antibiotic' demands the investigation and characterization of these bacterial predators in biologically relevant systems.[139]

The above research and papers have shedded the light on the fact that certain bacterial cells can kill other bacterial cells. Furthermore, these bacterial cells can interfere with the growth of biofilms.

# Melo LDR, Pinto G, Oliveira F, Vilas-Boas D, Almeida C, Sillankorva S, Cerca N, Azeredo J. have discussed: However, several staphylococcal bacteriophages were shown to be inefficient against biofilms. In this study, the previously characterized *S. epidermidis*-specific *Sepunavirus* phiIBB-SEP1 (SEP1), which has a broad spectrum and high activity against planktonic cells, was evaluated concerning its efficacy against *S. epidermidis* biofilms. The in vitro biofilm killing assays demonstrated a reduced activity of the phage. To understand the underlying factors impairing SEP1 inefficacy against biofilms, this phage was tested against distinct planktonic and biofilm-derived bacterial populations. Interestingly, SEP1 was able to lyse planktonic cells in different physiological states, suggesting that the inefficacy for biofilm control resulted from the biofilm 3D structure and the protective effect of the matrix. To assess the impact of the biofilm architecture on phage predation, SEP1 was tested in disrupted biofilms resulting in a 2 orders-of-magnitude reduction in the number of viable cells after 6 h of infection. The interaction between SEP1 and the biofilm matrix was further assessed by the addition of matrix to phage particles. Results showed that the matrix did not inactivate phages nor affected phage adsorption. Moreover, confocal laser scanning microscopy data demonstrated that phage infected cells were less predominant in the biofilm regions where the matrix was more abundant. Our results provide compelling evidence indicating that the biofilm matrix can work as a barrier, allowing the bacteria to be hindered from phage infection. [140]

139 Atterbury RJ, Tyson J. Predatory bacteria as living antibiotics - where are we now? Microbiology (Reading). 2021 Jan;167(1). doi: 10.1099/mic.0.001025. Epub 2021 Jan 19. PMID: 33465024.

140 Melo LDR, Pinto G, Oliveira F, Vilas-Boas D, Almeida C, Sillankorva S, Cerca N, Azeredo J. The Protective Effect of *Staphylococcus epidermidis* Biofilm Matrix against Phage Predation. Viruses. 2020 Sep 25;12(10):1076. doi: 10.3390/v12101076. PMID: 32992766; PMCID: PMC7601396.

# Yang D, Wang Z, Ma J, Fu Q, Wu L, Wang H, Wang S, Yan Y, Sun J. have written: The CRISPR/Cas system protects bacteria against bacteriophage and plasmids through a sophisticated mechanism where cas operon plays a crucial role consisting of cse1 and cas3. However, comprehensive studies on the regulation of cas3 operon of the Type I-E CRISPR/Cas system are scarce. [141]

# Rostøl JT, Marraffini L. have finalized: The phage resistance mechanisms discussed so far have mostly been studied in the lab individually, though this is rarely how a bacterium's arsenal is applied against phage in nature. Bacteria employ several complementary lines of defence, none of which are mutually exclusive, and a phage has to overcome each system to allow successful infection. On the other hand, contrary to experimental settings, the environment typically contains a heterogeneous mix of phages. Synergistic effects between anti-phage mechanisms are starting to be recognised.[142]

The above three papers indicate the fact that viruses can kill bacteria and vise versa.

# Linnakoski R, Reshamwala D, Veteli P, Cortina-Escribano M, Vanhanen H, Marjomäki V. have concluded: As fungi are a rich source of bioactive agents, the accumulation of know how on the actual bioactive molecules enriched, and their detailed targets in virus families will probably increase in the near future. Presently, there is a rather limited understanding of the antiviral mechanisms of fungal products on virus infection. Thus, more detailed knowledge on the actual molecular targets is crucial in order to develop these molecules further to efficiently combat virus infections in the future. Laboratory assays targeting directly various steps along virus infection are needed to understand in detail the mechanisms of action.[143]

141 Yang D, Wang Z, Ma J, Fu Q, Wu L, Wang H, Wang S, Yan Y, Sun J. Glycine Cleavage System and cAMP Receptor Protein Co-Regulate CRISPR/*cas3* Expression to Resist Bacteriophage. Viruses. 2020 Jan 13;12(1):90. doi: 10.3390/v12010090. PMID: 31941083; PMCID: PMC7019758.

142 Rostøl JT, Marraffini L. (Ph)ighting Phages: How Bacteria Resist Their Parasites. Cell Host Microbe. 2019 Feb 13;25(2):184-194. doi: 10.1016/j.chom.2019.01.009. PMID: 30763533; PMCID: PMC6383810.

143 Linnakoski R, Reshamwala D, Veteli P, Cortina-Escribano M, Vanhanen H, Marjomäki V. Antiviral Agents From Fungi: Diversity, Mechanisms and Potential Applications. Front Microbiol. 2018 Oct 2;9:2325. doi: 10.3389/fmicb.2018.02325. PMID: 30333807; PMCID: PMC6176074.

# Hongxiang Zhang, Jiatao Xie, Yanping Fu, Jiasen Cheng, Zheng Qu, Zhenzhen Zhao, Shufen Cheng, Tao Chen, Bo Li, Qianqian Wang, Xinqiang Liu, Binnian Tian, David B. Collinge, Daohong Jiang. A have researched: Mycoviruses are viruses that infect fungi, and hypovirulence-associated mycoviruses have the potential to control fungal diseases. However, it is unclear how mycovirus-mediated hypovirulent strains live and survive in the field, and no mycovirus has been applied for field crop protection. In this study, we found that a previously identified small DNA mycovirus (SsHADV-1) can convert its host, Sclerotinia sclerotiorum, from a typical necrotrophic pathogen to a beneficial endophytic fungus. SsHADV-1 downregulates the expression of key pathogenicity factor genes in S. sclerotiorum during infection. [144]

# Peleg, A., Hogan, D. & Mylonakis, E. have finalized:

- Bacteria and fungi can interact in several ways, including physical interactions by direct cell–cell contact, chemical interaction through the secretion of small molecules that are often involved in quorum sensing, environmental modifications such as pH changes, use of metabolic by-products and alterations in host responses.
- A range of mammalian and non-mammalian models of infection are now available for the study of mixed bacterial–fungal infections.
- Several Gram-negative pathogens are capable of killing *Candida albicans* and inhibiting filament formation, including *Pseudomonas aeruginosa*, *Acinetobacter baumannii*, *Burkholderia cepacia* and *Salmonella enterica* subsp. *enterica* serovar Typhimurium. This is predominantly mediated through the secretion of small molecules, such as quorum-sensing molecules and other known secretory virulence factors (namely, phospholipase C and phenazines for *P. aeruginosa*).
- Oral streptococci have adapted to adhere to *C. albicans* in the human mouth, and this seems to be mediated through polysaccharide receptors on the bacterial surface. Such co-aggregation is important in the pathogenesis of many oral diseases.

144 Hongxiang Zhang, Jiatao Xie, Yanping Fu, Jiasen Cheng, Zheng Qu, Zhenzhen Zhao, Shufen Cheng, Tao Chen, Bo Li, Qianqian Wang, Xinqiang Liu, Binnian Tian, David B. Collinge, Daohong Jiang. A 2-kb Mycovirus Converts a Pathogenic Fungus into a Beneficial Endophyte for Brassica Protection and Yield Enhancement. Molecular Plant, 2020; 13 (10): 1420 DOI: 10.1016/j.molp.2020.08.016

- *C. albicans* mounts a defence against these bacterial predators through the secretion of its quorum-sensing molecule farnesol. This molecule can affect bacterial production of virulence factors, viability and susceptibility to antibacterials[145]

The latter papers have strongly indicated the fact that fungi can be used to fight viruses and vice versa. Also, that bacteria and fungi can be found to destroy each other.

## 3.14. The effect sunlight on satan:

### 3.14.1. the direct effect of sunlight on satan

The prophet (peace and blessings on him) mentioned that these creatures dislike the sunlight and spread during the night. If one searches for the contents of the sun rays, ultraviolet is one, which is a disinfectant.

+ **Narrated Jabir**: The Prophet said, "When night falls, then keep your children close to you, for the devil spread out then. An hour later you can let them free; and close the gates of your house (at night), and mention Allah's Name thereupon, and cover your utensils, and mention Allah's Name thereupon, (and if you don't have something to cover your utensil) you may put across it something (e.g. a piece of wood etc.)." [146]

+ **It was narrated from Ibn Buraidah, from his father**, that the Prophet(ﷺ): "forbade sitting between the shade and sun."[147]

+ **In another narration** the prophet (peace and blessings on him explained the reason of forbiddance and said it is the seating of satan[148].

So, the devils dislike the sunrays, but not all the jinn.

### Microbes and sunlight:

# Miyamoto M, Yamaguchi Y, Sasatsu M, (2000) reported: ”The disinfectant effects on Legionella and nontuberculous mycobacteria of hot water, ultraviolet light, silver ions and chlorine, were evaluated. The bacterial strains Legionella pneumophila ATCC33152 and Mycobacterium avium ATCC25291 and strains of L. pneumophila and M. avium which had

145 Peleg, A., Hogan, D. & Mylonakis, E. Medically important bacterial–fungal interactions. *Nat Rev Microbiol* 8, 340–349 (2010). https://doi.org/10.1038/nrmicro2313

146 Sahih Al Bukhari , Book 59, Hadith 89.http://sunnah.com/bukhari/59/89

147 Sunan Ibn Majah, Book 33, Hadith 67. http://sunnah.com/ibnmajah/33/67

148 Sahih al jami, al suti 6823… al albani in the silsila sahiha 838

been isolated from a 24 h bath, were examined for their resistance to treatments. All strains were killed within 3 min on exposure to hot water at 70 degrees C and exposure to ultraviolet light at 90 mW.s/cm2. The strains of L. pneumophila tested were killed within 6 h on exposure to a solution of silver ions at 50 micrograms/l. The number of viable cells of strains of M. avium fell from 10(5) CFU/ml to 10(3) CFU/ml after exposure to an aqueous solution of silver ions at 100 micrograms/l for 24 h".[149]

# Conteville LC, Vicente ACP. Have reviewed: Recently, Bosman et al. presented evidence that skin exposure to narrowband UVB light modulated the gut microbiome of a specific human cohort. This cohort presented an increase of biodiversity, Firmicutes and Proteobacteria, and a decrease of Bacteroidetes. Based on these findings, we revisited our data on a hunter-gatherer gut microbiome (Yanomami) and identified similarities in the gut microbiome of these two cohorts. Both presented a high abundance of Proteobacteria, which had been observed as a unique feature in the Yanomami gut microbiome, and based on Bosman et al study, could be associated with their natural sunlight exposure.[150]

# Heilingloh CS, Aufderhorst UW, Schipper L, Dittmer U, Witzke O, Yang D, Zheng X, Sutter K, Trilling M, Alt M, Steinmann E, Krawczyk A. have concluded: We demonstrated that SARS-CoV-2, even at high viral titers, could be inactivated rapidly by UVC irradiation, revealing that this method is reliable not only for disinfection purposes in health care facilities but also for preparing inactivated SARS-CoV-2 material for research.[151]
These research and reviews clearly point to the fact that microbes are affect by sunlight. This is even evident in the gut microbiome where it is living inside a darked sealed place.

149 Miyamoto M, Yamaguchi Y, Sasatsu M, Disinfectant effects of hot water, ultraviolet light, silver ions and chlorine on strains of Legionella and nontuberculous mycobacteria. Microbios [2000, 101(398):7-13]
150 Conteville LC, Vicente ACP. Skin exposure to sunlight: a factor modulating the human gut microbiome composition. Gut Microbes. 2020 Sep 2;11(5):1135-1138. doi: 10.1080/19490976.2020.1745044. Epub 2020 Apr 27. PMID: 32339065; PMCID: PMC7524261.
151 Heilingloh CS, Aufderhorst UW, Schipper L, Dittmer U, Witzke O, Yang D, Zheng X, Sutter K, Trilling M, Alt M, Steinmann E, Krawczyk A. Susceptibility of SARS-CoV-2 to UV irradiation. Am J Infect Control. 2020 Oct;48(10):1273-1275. doi: 10.1016/j.ajic.2020.07.031. Epub 2020 Aug 4. PMID: 32763344; PMCID: PMC7402275.

### 3.14.2. Circadian rhythm and potency of devil at night

+ Allah the utterly just says: (Lord of the two Easts, and Lord of the two Wests! — Pickthall

(He is) Lord of the two Easts and Lord of the two Wests: — Yusuf Ali

[He is] Lord of the two sunrises and Lord of the two sunsets.
— Saheeh International [152]

**+ Narrated Jabir bin `Abdullah:** Allah's Messenger (ﷺ) said, "When night falls (or it is evening), keep your children close to you for the devils spread out at that time. But when an hour of the night elapses, you can let them free. Close the doors and mention the Name of Allah, for Satan does not open a closed door." [153]
The two easts are the surise and the moon rise as each are set for the peak of activity for one type of species. Moreover, the sun rise is the beginning for the activity for humans and their animals. While the moon rise is set for the peak activity for jinns and their animals.

### Circadian rhythm in biofilms and microbiomes:

# Sartor F. et al have debated: The potential for circadian rhythms in the Eubacteria is a big deal. Bacteria play a crucial role in medical, agricultural, and industrial processes. Knowledge of potential microbial circadian rhythms would allow us to capitalize on the rhythms to tune how we interact with bacteria in all of these areas.

The presence of a circadian clock in microbes could impact health problems stemming from or associated with microbes. One of the crises in medicine at this time is the prevalence of antibiotic-resistant bacteria (MRSA). This reflects an antibiotic overuse, creating an evolutionary pressure on the bacteria to evolve escape mechanisms, as well as a deficit of new antibiotics. Application of new antibiotics would simply delay the problem until new escape tricks are evolved. The combination of invoking bacterial circadian clocks such that they slow down metabolism or replication paired with time-of-day specific administration of antibiotic

152 Quran, chapter 55(Ar Rahman), verse 17
153 Sahih Al Bukhari, (59) book: beginning of creation, (15) chapter: the best property of a Muslim will be sheep, hadith no 3304

may be a more powerful form of treatment, potentially delaying development of resistance.[154]

# Murakami Mari, Tognini Paola. Have discussed: Although novel evidence has linked daily rhythmicity in gut microbe composition and their metabolites to modulation of the host's metabolism and immune system, how circadian oscillation in the intestinal microflora community could affect CNS function and host behavior has been poorly explored. However, recent data indicated a possible influence of daily rhythms on the gut microbiome–brain axis. Germ-free mice displayed reduced core clock gene oscillation in the mediobasal hypothalamus (Leone et al., 2015), which demonstrated that the absence of microbiota impacts the brain master clock. Additionally, light exposure was a key driver of bacteria compositional and functional daily fluctuation (Wu et al., 2018), and misalignment of the central clock through disruption of the normal sleep–activity cycle in mice could change the structure and diversity of the intestinal microbiota (Thaiss et al., 2016; Deaver et al., 2018). Furthermore, the microbial composition of mice fed a diet rich in fat and sugar were more susceptible to phase shift-driven circadian disruption than normal chow-fed animals (Voigt et al., 2014). Additionally, in humans, time-of-day-dependent variations in gut commensals have been observed and, importantly, jet-lag induced time-related alterations in the microbial community (Thaiss et al., 2014). Thus, there appears to be tight communication between the brain master clock and the ecosystem of symbionts in both rodents and humans.[155]

# Haspel, Jeffrey, et al. have debated: Taken together there are numerous aspects of the COVID-19 pandemic that may have a relationship to circadian and other biological rhythms, ranging from behavior of asymptotic carriers, organ physiology in the sick, the viral life cycle within infected cells, and the host immune response. Although biologically plausible, there has been limited attention to the potential protective effects

154 Sartor F, Eelderink-Chen Z, Aronson B, Bosman J, Hibbert LE, Dodd AN, Kovács ÁT, Merrow M. Are There Circadian Clocks in Non-Photosynthetic Bacteria? Biology (Basel). 2019 May 22;8(2):41. doi: 10.3390/biology8020041. PMID: 31121908; PMCID: PMC6627678.

155 Murakami Mari, Tognini Paola. The Circadian Clock as an Essential Molecular Link Between Host Physiology and Microorganisms. Frontiers in Cellular and Infection Microbiology. 9, 2020, page 469. https://www.frontiersin.org/article/10.3389/fcimb.2019.00469. DOI=10.3389/fcimb.2019.00469

of healthy sleep and circadian rhythms. Interestingly, the consideration of the available data on the ICU environment and critically ill patients points out the lack of data demonstrating if and how sleep and a synchronized clock contribute to healing. There are numerous examples of circadian disruption leading to illness but few examples of synchronization leading to healing. With judicious collection of time-stamped data, the current pandemic can be used to better understand how the circadian clock is involved in critical illness. We also propose that knowledge of the state of the circadian clock may be used to mitigate all stages of COVID-19.[156] Therefore, microbiota may work according to a circadian rhythm and biologic clock.

## 3.15. The timing of first existence of Jinn and satan:

Islam clearly says that jinn were created or found to exist before Humans.

+ Allah the whole knower says: And indeed, we created man from dried (sounding) clay of altered mud. (26) And the jinn, we created aforetime from the smokeless flame of fire. [157]

This means that jinns and satans were created before humans.

**Bacteria in modern medicine are found to exist much before humans.**

# Graves N.(2004) reported: "Bacteria first appeared on earth about 3.6 billion years ago, long before the appearance of Homo sapiens around 100,000 years ago"[158]

# Birger Rasmussen, Ian R. Fletcher, Jochen J. Brocks & Matt R. Kilburn. (2008) documented that:" The oldest widely accepted evidence for oxygenic photosynthesis has come from hydrocarbons extracted from ~2.7-Gyr-old shales in the Pilbara Craton, Australia, which contain traces of biomarkers (molecular fossils) indicative of eukaryotes and suggestive of oxygen-producing cyanobacteria." [159]

156 Haspel, Jeffrey, et al. "A Timely Call to Arms: COVID-19, the Circadian Clock, and Critical Care." Journal of Biological Rhythms, vol. 36, no. 1, Feb. 2021, pp. 55–70, doi:10.1177/0748730421992587.
157 Al Quran, Surah Al hijr (15): Verses (26-27)
158 Graves N. Economics and preventing hospital-acquired infection. Emerg Infect Dis. 2004;10:561-566.
159 Birger Rasmussen, Ian R. Fletcher, Jochen J. Brocks & Matt R. Kilburn. Reassessing the first appearance of eukaryotes and cyanobacteria. Nature455, 1101-1104 (23 October 2008)

# Human Evolution by The Smithsonian Institution's Human Origins Program". Cited in this article: “Humans (known taxonomically as Homo sapiens, Latin for "wise man" or "knowing man" are the only living species in the Homo genus. Anatomically modern humans originated in Africa about 200,000 years ago, reaching full behavioral modernity around 50,000 years ago”.[160]

So based on the above evidences one can state that, it is evident that bacteria first existed before humans. Bringing the attention of the reader to the fact that the writer does not believe in Darwin’s theory of evolution. On the contrary, this whole paper is a pure refutation of this alleged theory. But nearly all university were forced to believe in this theory. That is why most papers about the origin of humans and other creature refer to evolution.

## 3.16. satan's life expectancy:

It is well recorded that these creatures have very long-life span:

# Allah the glorified says that: [iblîs (satan)] said: "O my Lord! Give me then respite till the Day they will be resurrected." (36) Allah said: "Then, verily, you are of those reprieved, (37) "Till the Day of the time appointed." (38) [161]

Therefore, if iblis (the father of jinn= their origin) has a longer life span than our father Adam (peace on him). The progeny of satan will have longer life span than us (the progeny of Adam).

### Bacterial life span:

# RJ Cano and MK Borucki, They have recorded:” A bacterial spore was revived, cultured, and identified from the abdominal contents of extinct bees preserved for 25 to 40 million years in buried Dominican amber. Rigorous surface decontamination of the amber and aseptic procedures were used during the recovery of the bacterium. Several lines of evidence indicated that the isolated bacterium was of ancient origin and not an extant contaminant. The characteristic enzymatic, biochemical, and 16S

160 Human Origins Initiative.Smithsonian Institution. Retrieved 2010-08-30., as from Wikipedia
161 Al Quran, Surah Al hijir (15): Verses (36-38)

ribosomal DNA profiles indicated that the ancient bacterium is most closely related to extant Bacillus sphaericus".[162]

# Sarah S. Johnson et al (2007) said: "Our results show evidence of bacterial survival in samples up to half a million years in age, making this the oldest independently authenticated DNA to date obtained from viable cells. Additionally, we find strong evidence that this long-term survival is closely tied to cellular metabolic activity and DNA repair that over time proves to be superior to dormancy as a mechanism in sustaining bacteria viability".[163]

# Shoemaker WR, Jones SE, Muscarella ME, Behringer MG, Lehmkuhl BK, Lennon JT. Have written: Microorganisms commonly inhabit energy-limited ecosystems where cellular maintenance and reproduction is highly constrained. To gain insight into how individuals persist under such conditions, we derived demographic parameters from a collection of 21 heterotrophic bacterial taxa by censusing 100 populations in an effectively closed system for 1,000 d. All but one taxon survived prolonged resource scarcity, yielding estimated times to extinction ranging over four orders of magnitude from $10^0$ to $10^5$ years. Our findings corroborate reports of long-lived bacteria recovered from ancient environmental samples, while providing insight into mechanisms of persistence. As death rates declined over time, lifespan was extended through the scavenging of dead cells. Although reproduction was suppressed in the absence of exogenous resources, populations continued to evolve.[164]
These papers refer to the fact that bacteria can be retrieved from samples as half a million years old. The other research shows that live bacteria live up to 100000 years.

162 Cano RJ, Borucki MK. Revival and identification of bacterial spores in 25- to 40-million-year-old Dominican amber. Science. 1995 May 19;268(5213):1060-4. doi: 10.1126/science.7538699. Erratum in: Science 1995 Jun 2;268(5215):1265. PMID: 7538699.

163 Sarah Stewart Johnson, Martin B. Hebsgaard, Torben R. Christensen, Mikhail Mastepanov, Rasmus Nielsen, Kasper Munch, Tina Brand, M. Thomas P. Gilbert, Maria T. Zuber, Michael Bunce, Regin Rønn, David Gilichinsky, Duane Froese, and Eske Willerslev. 163 Ancient bacteria show evidence of DNA repair. PNAS September 4, 2007 104 (36) 14401-14405; https://doi.org/10.1073/pnas.0706787104Communicated by P. Buford Price, University of California, Berkeley, CA, July 25, 2007 (received for review June 14, 2007)

164 Shoemaker WR, Jones SE, Muscarella ME, Behringer MG, Lehmkuhl BK, Lennon JT. Microbial population dynamics and evolutionary outcomes under extreme energy limitation. Proc Natl Acad Sci U S A. 2021 Aug 17;118(33):e2101691118. doi: 10.1073/pnas.2101691118. PMID: 34385301; PMCID: PMC8379937.

## 3.17. The movements of jinns and satans:

A quick search through Quran and Sunnah (by the will of Allah) will direct us to know that some of them might have high speed of motion:

+ Allah (the Glorified) says: Said an Ifrit of the Jinns: "I will bring it to thee before thou rise from thy Council: indeed I have full strength for the purpose, and may be trusted." [165]

This means that this specific jinni was able to travel the distance between Palestine and Yemen in few hours (2 way, forth and back). This distance equals to roughly 2000 km or more (one way). Therefore, this jinni was able run in a very high speed, which is 4000km/5-6hours.

Biofilms and bacterial movements: Bacteria have been confirmed to be able to move quickly in accordance to their size.

# J G Mitchell, L Pearson, S Dillon, and K Kantalis (1995) reported: " Natural communities of marine bacteria, an isolate (FMB-Bf3) from one marine community, and Escherichia coli were examined by video microscopy for the magnitude and uniformity of their speed. Natural communities formed tight microswarms that showed higher speeds (mean 5 230 microm s-1) than did E. coli (15 microm s-1) or FMB-Bf3 (mean = 62 microm s-1). Outside the microswarms, the marine bacteria slowed to 45 microm s-1. Between turns, in mid run, and while travelling in straight lines, the natural-community bacteria accelerated up to 1,450 microm s-2, while the cultured bacteria showed maximum accelerations of 70 and 166 microm s-2 ".[166]

This research is not brought as evidence to prove that this bacterium is that demon which can move as fast as 500-800km/h. It is brought to show that they can move quickly. Also, till now in the research, the collective speed of biofilms has not been observed widely.

165 Al Quran, Surah Al namil (27): verse (39)

166 Mitchell JG, Pearson L, Dillon S, Kantalis K. Natural assemblages of marine bacteria exhibiting high-speed motility and large accelerations. Appl Environ Microbiol. 1995 Dec;61(12):4436-40. doi: 10.1128/aem.61.12.4436-4440.1995. PMID: 8534107; PMCID: PMC167751.

## 3.18. Some of their products from the Quran and the Sunnah of our beloved prophet (peace and blessings on him):

+ Allah (the glorified) said: O you who believe! all kinds of alcoholic drinks, gambling, and Al-Ansab, and AlAzlam (arrows for seeking luck or decision) are an abomination of Satan's handiwork. So avoid that in order that you may be successful. [167]

In Arabic the word (ammal) means work. This word while reading this verse can have two meanings: the habit of satan, or the work (product) of satan.

### Bacteria and fungi can produce certain products of alcoholics:

It is well known fact that fungi and bacteria are producing wines and other types of alcoholics.

# Aline Lonvaud-Funel, Annick Joyeux (1994) noted that: "Strain Leuconostoc œnos 9204 was isolated and studied since it retained its ability to produce histamine after several transfers. In synthetic medium this strain produced large amounts of histamine especially in the poorest nutritional conditions (no glucose, no L-malic acid). These results clearly demonstrate that Leuc. œnos involved in wine-making might play a role in biogenic amine production. The vinification method might also influence the final amine concentration in wine".[168]

# Bastard A, Coelho C, Briandet R, Canette A, Gougeon R, Alexandre H, Guzzo J, Weidmann S. have investigated: The winemaking process involves the alcoholic fermentation of must, often followed by malolactic fermentation (MLF). The latter, mainly carried out by the lactic acid bacterium Oenococcus oeni, is used to improve wine quality when acidity reduction is required. Moreover, it prevents microbial spoilage and improves the wine's organoleptic profile. Prior observations showed that O. oeni is able to resist several months in harsh wine conditions when adhered on oak barrels. Since biofilm is a prevailing microbial lifestyle in natural environments, the capacity of O. oeni to form biofilms was investigated on winemaking material such as stainless steel and oak chips.

167 Al Quran, Surah Al maida (5): Verse (90)

168 Aline Lonvaud-Funel, Annick Joyeux. Histamine production by wine lactic acid bacteria: isolation of a histamine-producing strain of Leuconostoc oenos. Journal of Applied Microbiology. Volume 77, Issue 4, pages 401–407, October 1994

Scanning Electron Microscopy and Confocal Laser Scanning Microscopy showed that O. oeni was able to adhere to these surfaces and form spatially organized microcolonies embedded in extracellular substances. To assess the competitive advantage of this mode of life in wine, the properties of biofilm and planktonic cells were compared after inoculation in a fermented must (pH 3.5 or 3.2 and 12% ethanol) The results indicated that the biofilm culture of O. oeni conferred (i) increased tolerance to wine stress, and (ii) functional performance with effective malolactic activities.[169]

# Liu D, Chen Q, Zhang P, Chen D, Howell KS have gained the following result : Results show that both soil and must microbiota distinguish wine-growing regions. We found a relationship between microbial and wine metabolic profiles under different environmental conditions, in particular measures of soil properties and weather. Fungal communities are associated with wine regional distinctiveness. We found that the soil microbiome is a source of grape- and must-associated fungi and suggest that weather and soil could influence wine characteristics via the soil fungal community.[170]
(P.S. Furthermore, it is obvious that these creatures (organisms) are multicellular. We have talked about the beasts which are fungal cells and other types of cells, they are all found together.)

## 3.19. Black dog (canine) and the presence of devil inside them:

**+ Abu Dharr reported:** The Messenger of 'Allah (ﷺ) said: When any one of you stands for prayer and there is a thing before him equal to the back of the saddle that covers him and in case there is not before him (a thing) equal to the back of the saddle, his prayer would be cut off by (passing of an) ass, woman, and black Dog. I said: O Abu Dharr, what feature is there in a black dog which distinguish it from the red dog and the yellow dog?

169 Bastard A, Coelho C, Briandet R, Canette A, Gougeon R, Alexandre H, Guzzo J, Weidmann S. Effect of Biofilm Formation by Oenococcus oeni on Malolactic Fermentation and the Release of Aromatic Compounds in Wine. Front Microbiol. 2016 Apr 27;7:613. doi: 10.3389/fmicb.2016.00613. PMID: 27199942; PMCID: PMC4846790.
170 Liu D, Chen Q, Zhang P, Chen D, Howell KS. The Fungal Microbiome Is an Important Component of Vineyard Ecosystems and Correlates with Regional Distinctiveness of Wine. mSphere. 2020 Aug 12;5(4):e00534-20. doi: 10.1128/mSphere.00534-20. PMID: 32817452; PMCID: PMC7426168.

He said: O, son of my brother, I asked the Messenger of Allah (ﷺ) as you are asking me, and he said: The black dog is a devil.[171]
The hadith is obvious that there is either a devil inside the black dog or the black dog is a reshaped version of the devil itself. The former is chosen by the writer for some reasons that will follow soon.

Moreover, since the devil is found inside the black dogs then the horns of that devil can be found also. If the dog interrupts the prayer by walking infront of the man with out bitting him then clearly that dog is healthy and does not have rabies.

## The Microbiome of healthy canines

# Moreno PS, Wagner J, Mansfield CS, Stevens M, Gilkerson JR, Kirkwood CD. have discussed: The virome has been increasingly investigated in numerous animal species and in different sites of the body, facilitating the identification and discovery of a variety of viruses. In spite of this, the faecal virome of healthy dogs has not been investigated. In this study we describe the faecal virome of healthy dogs and dogs with acute diarrhoea in Australia, using a shotgun metagenomic approach. Viral sequences from a range of different virus families, including both RNA and DNA families, and known pathogens implicated in enteric disease were documented. Twelve viral families were identified, of which four were bacteriophages. Eight eukaryotic viral families were detected: Astroviridae, Coronaviridae, Reoviridae, Picornaviridae, Calici viridae, Parvoviridae, Adenoviridae and Papillomaviridae.
Families Astroviridae, Picornaviridae and Caliciviridae were found only in dogs with acute diarrhoea, with Astroviridae being the most common family identified in this group. Due to its prevalence, 90haracterization the complete genome of a canine astrovirus was performed. These studies indicate that metagenomic analyses are useful for the investigation of viral populations in the faeces of dogs. Further studies to elucidate the epidemiological and biological relevance of these findings are warranted.[172]

171 Sahih Muslim, (4) Book of prayers, (50)Chapter: The Height Of That Which Serves As A Sutrah For The One Who Is Praying, Hadith 510a

172 Moreno PS, Wagner J, Mansfield CS, Stevens M, Gilkerson JR, Kirkwood CD. Characterisation of the canine faecal virome in healthy dogs and dogs with acute diarrhoea using shotgun metagenomics. PLoS One. 2017 Jun 1;12(6):e0178433. doi: 10.1371/journal.pone.0178433. PMID: 28570584; PMCID: PMC5453527.

# Pilla R, Suchodolski JS. Have found: The gut microbiome contributes to host metabolism, protects against pathogens, educates the immune system, and, through these basic functions, affects directly or indirectly most physiologic functions of its host. Molecular techniques have allowed us to expand our knowledge by unveiling a wide range of unculturable bacteria that were previously unknown. Most bacterial sequences identified in the canine gastrointestinal (GI) tract fall into five phyla: Firmicutes, Fusobacteria, Bacteroidetes, Proteobacteria, and Actinobacteria. While there are variations in the microbiome composition along the GI tract, most clinical studies concentrate on fecal microbiota. Age, diet, and many other environmental factors may play a significant role in the maintenance of a healthy microbiome, however, the alterations they cause pale in comparison with the alterations found in diseased animals. GI dysfunctions are the most obvious association with gut dysbiosis. In dogs, intestinal inflammation, whether chronic or acute, is associated with significant differences in the composition of the intestinal microbiota. Gut dysbiosis happens when such alterations result in functional changes in the microbial transcriptome, proteome, or metabolome. [173]
We have learned the fact that healthy dogs have microbiomes that contain viromes as well.

## 3.20. The presence of devil inside some animals and insects

### + Abu Sa'id Khudri reported Allah's Messenger having said:

There is a group of jinns in Medina who accepted Islam, so he who would see anything from these occupants should warn him three times; and if he appears after that, he should kill him for he is a satan.[174]

Hawam (occupants) in Arabic is the word used for the animals and insects which might appear inside houses. These animals include snakes, scorpions, mice, lizards and others. Hence, these animals either contain bodily cells of jinns without any structure of horns (jinns) and bodily cells of jinns plus horn cells (satan). Also, the animals of both can be found in side these animals.

173 Pilla R, Suchodolski JS. The Role of the Canine Gut Microbiome and Metabolome in Health and Gastrointestinal Disease. Front Vet Sci. 2020 Jan 14;6:498. doi: 10.3389/fvets.2019.00498. PMID: 31993446; PMCID: PMC6971114.

174 Sahih Muslim, (39) book of the greetings, (37) chapter: killing snakes etc.., hadith no 2236c

## Some animals and their microbiome:

# Gilbert C, Meik JM, Dashevsky D, Card DC, Castoe TA, Schaack S. have found: A large number of viruses have been characterized in reptiles, including at least 11 families reported from snakes. Hepadnaviruses, bornaviruses and circoviruses, however, have not been reported in this group, with the exception of one transcript of a truncated bornavirus nucleoprotein gene (94 aa) found in a Gaboon viper transcriptome and a TBLASTN hit corresponding to our python EBLN3 reported in a supplementary table of Horie et al.. In fact, bornaviruses and hepadnaviruses have never been observed in non-avian reptiles, and only one member of the Circoviridae is known from a non-avian reptile (green sea turtle). The multiple endogenization events we report across taxa, however, show that snakes have been repeatedly exposed to divergent members of these three viral families during the last 50 Myr (table 1). While these data do not imply that snakes are currently interacting with these viruses, they do indicate that they have interacted in the past. Our results broadly illustrate the potential of palaeovirology for shedding light on past host–virus interactions, for developing and testing hypotheses regarding host-switching, and as a guide for targeting plausible host taxa in future searches of circulating viruses. In addition to the identification of previously unreported endogenized viruses in snakes, our phylogenetic analysis reveals a clear lack of congruence between host and virus phylogenies, suggesting the three virus families have probably jumped between mammals and reptiles one or multiple times in the past.[175]

# Smith SN, Colston TJ, Siler CD et al have constructed: Despite gradual improvements to our understanding of microbial differences between distinct body sites across the reptilian GIT there remains a fundamental paucity of information on the composition, diversity, and functional capabilities of snake microbiomes. However, developing a baseline understanding of venomous snake microbiomes with regional associations in the body (e.g., GIT vs. venom gland) will be vital in order to address the important roles host-specific microbiomes may have played in venomous snake adaptive evolution. Additionally, although the use of 16S rRNA gene

175 Gilbert C, Meik JM, Dashevsky D, Card DC, Castoe TA, Schaack S. 2014 Endogenous hepadnaviruses, bornaviruses and circoviruses in snakes. Proc. R. Soc. B 281: 20141122. http://dx.doi.org/10.1098/rspb.2014.1122

amplicon sequencing is often the first step to elucidating important patterns on compositional differences among host-associated bacterial communities, other genomic sequencing technologies (i.e., shotgun metagenomic sequencing) present exciting opportunities to begin identifying potential functional roles of these microbiomes and how they interact with their hosts. With the results of this comparative study of three different host species, each representing a unique snake family (Colubridae, Elapidae, Viperidae), we can continue to address this information gap for one of the most ecologically diverse and speciose vertebrate groups on the planet. [176]

# Mims TS, Abdallah QA, Stewart JD, Watts SP, White CT, Rousselle TV, Gosain A, Bajwa A, Han JC, Willis KA, Pierre JF. have found: Here, we investigate whether variations in gut mycobiome abundance and composition correlate with key features of host metabolism. We obtained animals from four commercial sources in parallel to test if differing starting mycobiomes can shape host adaptation in response to processed diets. We show that the gut mycobiome of healthy mice is shaped by the environment, including diet, and significantly correlates with metabolic outcomes. We demonstrate that exposure to processed diet leads to persistent differences in fungal communities that significantly associate with differential deposition of body mass in male mice compared to mice fed standardized diet. Fat deposition in the liver, transcriptional adaptation of metabolically active tissues and serum metabolic biomarker levels are linked with alterations in fungal community diversity and composition. Specifically, variation in fungi from the genera *Thermomyces* and *Saccharomyces* most strongly associate with metabolic disturbance and weight gain.[177]

# Bolaños LM, Rosenblueth M, Castillo-Ramírez S, Figuier-Huttin G, Martínez-Romero E. have discovered: Scorpions are considered 'living fossils' that have conserved ancestral anatomical features and have adapted

176 Smith SN, Colston TJ, Siler CD. Venomous Snakes Reveal Ecological and Phylogenetic Factors Influencing Variation in Gut and Oral Microbiomes. Front Microbiol. 2021 Mar 26;12:657754. doi: 10.3389/fmicb.2021.657754. PMID: 33841384; PMCID: PMC8032887.

177 Mims TS, Abdallah QA, Stewart JD, Watts SP, White CT, Rousselle TV, Gosain A, Bajwa A, Han JC, Willis KA, Pierre JF. The gut mycobiome of healthy mice is shaped by the environment and correlates with metabolic outcomes in response to diet. Commun Biol. 2021 Mar 5;4(1):281. doi: 10.1038/s42003-021-01820-z. PMID: 33674757; PMCID: PMC7935979.

to numerous habitats. However, their gut microbiota diversity has not been studied. Here, we characterized the gut microbiota of two scorpion species, Vaejovis smithi and Centruroides limpidus. Our results indicate that scorpion gut microbiota is species-specific and that food deprivation reduces bacterial diversity. 16S rRNA gene phylogenetic analysis revealed novel bacterial lineages showing a low level of sequence identity to any known bacteria. Furthermore, these novel bacterial lineages were each restricted to a different scorpion species. Additionally, our results of the predicted metagenomic profiles revealed a core set of pathways that were highly abundant in both species, and mostly related to amino acid, carbohydrate, vitamin and cofactor metabolism.[178]

Here we discover that there are microbiomes plus/minus virome and fungi inside reptilian animals, mice, scorpions specially and snakes.

## 3.21. Domestic Donkeys and satan:

**+ Anas reported:** When Allah's Messenger (ﷺ) conquered Khaibar, we caught hold of the asses outside the village. We cooked them (their flesh). Then the announcer of Allah's Messenger (ﷺ) made the announcement: Listen, verily Allah and His Messenger have prohibited you (the eating of) their (flesh), for it is a loathsome evil of Satan's doing. Then the earthen pots were turned over along with what was in them, and these were brimming (with flesh) at that time.[179]

This hadith clearly states that the fleshes of domestic donkeys are inhabited by satan. Which means that during their life we can find viromes and microbiomes dwelling inside these donkeys.

### Microbiome of donkeys:

# Câmara RJF. Et al have discovered: Donkeys (Equus asinus) and mules represent approximately 50% of the entire domestic equine herd in the world and play an essential role in the lives of thousands of people, primarily in developing countries. Despite their importance, donkeys are currently a neglected and threatened species due to abandonment,

178 Bolaños LM, Rosenblueth M, Castillo-Ramírez S, Figuier-Huttin G, Martínez-Romero E. Species-specific diversity of novel bacterial lineages and differential abundance of predicted pathways for toxic compound degradation in scorpion gut microbiota. Environ Microbiol. 2016 May;18(5):1364-78. doi: 10.1111/1462-2920.12939. Epub 2015 Aug 4. PMID: 26058415.

179 Sahih Muslim, (34) The Book of Hunting, Slaughter, and what may be Eaten. (5) Chapter: The prohibition of eating the meat of domesticated donkeys. Hadith 1940a

indiscriminate slaughter, and a lack of proper sanitary management. Specific knowledge about infectious viral diseases that affect this group of Equidae is still limited. In many cases, donkeys and mules are treated like horses, with the physiological differences between these species usually not taken into account. Most infectious diseases that affect the Equidae family are exclusive to the family, and they have a tremendous economic impact on the equine industry. However, some viruses may cross the species barrier and affect humans, representing an imminent risk to public health.[180]

# Liu G, et al has noted: Gastrointestinal microbiota has significant impact on the nutrition and health of monogastric herbivores animals including donkey. However, so far, the microbiota in different gastrointestinal compartments of healthy donkey has not been described. Therefore, we investigated the abundance and function of microbiota at different sites of the gastrointestinal tract (GIT) (foregut: stomach, duodenum, jejunum and ileum; hindgut: cecum, ventral colon, dorsal colon, and rectum) of healthy adult donkeys mainly based on 16S rRNA gene sequencing and phylogenetic investigation of communities by reconstruction of unobserved states (PICRUSt) analysis. Collectively, our results showed that donkey has a rich, diverse and multi-functional microbiota along the GIT. In general, the richness and diversity of the microbiota are much higher in the hindgut relative to that in the foregut; at phylum level, the Firmicutes is dominant in the foregut while both Firmicutes and Bacteroides are abundant in the hindgut; at the genus level, Lactobacillus was dominant in the foregut while Streptococcus was more dominant in the hindgut. Our further PICRUSt analysis showed that varying microbiota along the GIT is functionally compatible with the corresponding physiological function of different GIT sites. For example, the microbes in the foregut are more active at carbohydrate metabolism, and in the hindgut are more active at amino acid metabolism. This work at the first time characterized the donkey digestive system from the aspects of microbial composition and function, provided an important basic data about donkey healthy gastrointestinal microbiota, which may be utilized to

180 Câmara RJF, Bueno BL, Resende CF, Balasuriya UBR, Sakamoto SM, Reis JKPD. Viral Diseases that Affect Donkeys and Mules. Animals (Basel). 2020 Nov 25;10(12):2203. doi: 10.3390/ani10122203. PMID: 33255568; PMCID: PMC7760297.

evaluate donkey health and also offer clues to further investigate donkey digestive system, nutrition, even to develop the microbial supplements.[181]

These research and papers denote that the guts of the donkeys are inhabited by microbiota.

## 3.22. the progeny of satan:

+ Allah the creator of everything be glorified said: And (remember) when We said to the angels: "Prostrate yourselves unto Adam." So they prostrated themselves except Iblîs (Satan). He was one of the jinn; he disobeyed the Command of his Lord. Will you then take him (Iblîs) and his offspring as protectors and helpers rather than Me while they are enemies to you? What an evil is the exchange for the Zâlimûn (polytheists, and wrong-doers).
— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan [182]

The verse confirms that satan has offsprings. We have further illustrated that allah says that anything on earth or the sky are nations like us. Therefore, since humans have embyogenic stages then jinns and or satan progeny or offspring might have these also.
+ Allah the magnificent states: O mankind! If you are in doubt about the Resurrection, then verily We have created you (i.e. Adam) from dust, then from a Nutfah (mixed drops of male and female sexual discharge i.e. the offspring of Adam), then from a clot (a piece of thick coagulated blood) then from a little lump of flesh - some formed and some unformed (as in the case of miscarriage) - that We may make (it) clear to you (i.e. to show you Our Power and Ability to do what We will). And We cause whom We will to remain in the wombs for an appointed term, then We bring you out as infants,[1] then (give you growth) that you may reach your age of full strength. And among you there is he who dies (young), and among you there is he who is brought back to the miserable old age, so that he knows nothing after having known. And you see the earth barren, but when We send down water (rain) on it, it is stirred (to life), and it swells and puts forth every lovely kind (of growth).

181 Liu G, Bou G, Su S, Xing J, Qu H, Zhang X, Wang X, Zhao Y, Dugarjaviin M. Microbial diversity within the digestive tract contents of Dezhou donkeys. PLoS One. 2019 Dec 13;14(12):e0226186. doi: 10.1371/journal.pone.0226186. PMID: 31834903; PMCID: PMC6910686.
182 Al Quran, chapter Al Kahf 18, verse 50

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan [183]
Therefore, this verse and many other verses show that human embryos undergoe many stages of development. If one concludes, then jinnis will also have emryo like stages.

## Do biofilms have embryo like stages?

# Futo M, Opašić L, Koska S, Čorak N, Široki T, Ravikumar V, Thorsell A, Lenuzzi M, Kifer D, Domazet-Lošo M, Vlahoviček K, Mijakovic I, Domazet-Lošo T. have found: Using time-resolved transcriptome and proteome profiles, we found that biofilm ontogeny (development) correlates with the evolutionary measures, in a way that evolutionary younger and more diverged genes were increasingly expressed toward later timepoints of biofilm growth. Molecular and morphological signatures also revealed that biofilm growth is highly regulated and organized into discrete ontogenetic stages, analogous to those of eukaryotic embryos. Together, this suggests that biofilm formation in Bacillus is a bona fide developmental process comparable to organismal development in animals, plants, and fungi. Given that most cells on Earth reside in the form of biofilms and that biofilms represent the oldest known fossils, we anticipate that the widely adopted vision of the first life as a single-cell and free-living organism needs rethinking.[184]

# Chatterjee S, Das S. :Fungal biofilm is ubiquitous in natural environment. The major constituent of fungal biofilm other than biomass is the extracellular matrix (ECM), in which fungal hyphae are embedded. Physical properties of biofilms such as attachment, mechanical strength, and antibiotic resistance can be attributed to ECM. The present work probes various stages of biofilm formation by filamentous manglicolous fungus Aspergillus niger BSC-1. The spectroscopic analysis revealed that with an increase in incubation time the biofilm formation was significantly increased ($p < .0001$) up to 36 h. Scanning electron micrograph and confocal micrograph depicted the development of fungal biofilm comprising of six stages, that is, (a) adsorption, (b) active attachment, (c) germling and monolayer formation, (d) hyphal development and formation

183 Al Quran, chapter Al Hajj 22, verse 5
184 Futo M, Opašić L, Koska S, Čorak N, Široki T, Ravikumar V, Thorsell A, Lenuzzi M, Kifer D, Domazet-Lošo M, Vlahoviček K, Mijakovic I, Domazet-Lošo T. Embryo-Like Features in Developing Bacillus subtilis Biofilms. Mol Biol Evol. 2021 Jan 4;38(1):31-47. doi: 10.1093/molbev/msaa217. PMID: 32871001; PMCID: PMC7783165.

of ECM, (e) maturation of ECM, and (f) dispersal of spores. At maturation stage, thickness of biofilm was observed upto approximately 15 µm. Approximately, 8.1 mg of ECM materials were extracted from 20 ml of broth culture using ethanol precipitation method.[185]

The authors of the above paper suggest and have observed developmental stages of biofilm growth the same or close to what other mammals have.

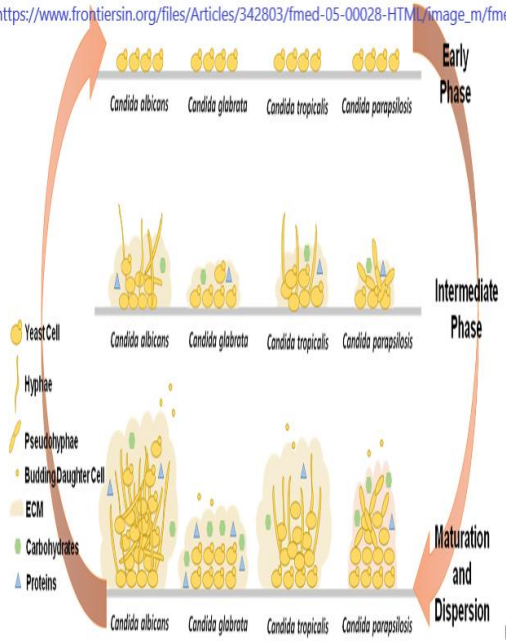
## 3.23. chapter summary:

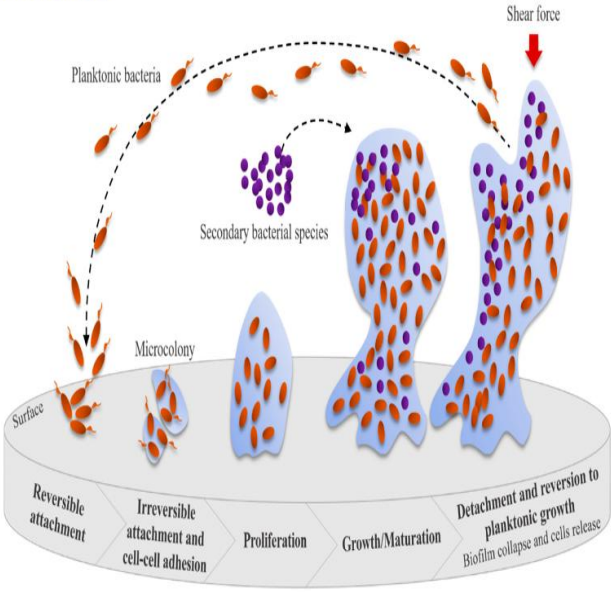
To recap and get the whole picture: the bits and pieces were collected regarding the shape of satan and were compared to those found and discovered till now for biofilms. After finishing the comparism between the two anyone can conclude with great deal of extra confidence that biofilms are indeed jinns and devils. The characteristics shared in this chapter were the following: Their bodily cells and the Extra cellular matrix are transparent and can be seen in the range of the UV light and by some animals. Moreover, their bodies can produce soundwaves and sense them at the same time. Furthermore, their cells and growth can be affected by sound waves (both negatively and positively) and connunicate between each other. In addition, these can sense pain and light which lead to the fact that they have organs for sensation and for other bodily function which are controlled by networks higher functional system like brain and heart (more suitable to their nature). Also, they have mechanical appandages that can be used for food (the same as human hands). What is most amazing is that viruses are part of some biofilms (not all) and exterior appandages like human hairs. However, these viruses can be used as weapons against other biofilms (jinns and or devils) and their animals' biofilms (fungi, protozoa, ect……. other micro-organisms) in the same way these latter can destroy viruses. Besides, these creatures have long existed in this form and with these features before the humans exisited. Also, their life spans are long and may reach few thousands of years. The same as humans' systems follow a circadian rhythm their systems strongly follow the same but with peak activity in the night. Additionaly, a 3d structure is observed among these creatures which can take many shapes as the incarnate many

[185] Chatterjee S, Das S. Developmental stages of biofilm and characterization of extracellular matrix of manglicolous fungus Aspergillus niger BSC-1. J Basic Microbiol. 2020 Mar;60(3):231-242. doi: 10.1002/jobm.201900550. Epub 2019 Dec 19. PMID: 31856361.

mammalians and reptiles. Also, their cells and those of their animals take part in the production of alcohol. All, the cells in one biofilm structure can move together. Lastly, it appears that these structures have stages of development the same as embryonic stages.

https://www.frontiersin.org/files/Articles/342803/fmed-05-00028-HTML/image_m/fmed-05-00028-g001.jpg

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# 4. Chapter Four: Places where devils and jinn can dwell or be found:

## 4.1. The Different types of devils and the presence of specialization among the cells

+ Allah the most knowledgeable says: And also, the Shayâtîn (devils) from the jinn (including) every kind of builder and diver,

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[186]

+ Allah the most knowledgeable says: And of the Shayâtîn (devils from the jinn) were some who dived for him, and did other work besides that; and it was We Who guarded them.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[187]

These verses dictate the fact that jinns or satans are of different specialization which means that they might have different structures and can be found to dwell in different places.

### The different types of biofilms:

# López D, Vlamakis H, Kolter R. have said: P. aeruginosa is a gram-negative pathogen that makes biofilms by producing three distinct exopolysaccharides: alginate, PEL, and PSL. The importance and contribution of each exopolysaccharide to the matrix varies depending on the strain studied (Ryder et al. 2007; Tart and Wozniak 2008). For example, alginate is a produced by mucoid strains of P. aeruginosa that are often isolated from lungs of cystic fibrosis patients. The pel gene cluster, encoding a glucose-rich polymer termed PEL, is found in most of the strains analyzed to date, yet its expression strongly varies among strains (Branda et al. 2005). The reference strain PA14 used in many laboratories harbors a partial deletion of the psl locus, which prevents the PSL mannose-rich polysaccharide from being made (Friedman and Kolter 2004).The soil-dwelling Gram-positive bacterium B. subtilis is also studied as a model organism for biofilm formation. Different B. subtilis strains are

186 Quran, Chapter 38 (Saad), verse 37
187 Quran, Chapter 38 (Saad), verse 37

able to secrete two distinct polymers: the polysaccharide EPS and poly-d-glutamate (PGA). [188]

This research indicates that there are biofilms living in the lung and we will show that there are biofilms in water, soil and air.

## 4.2. The seas and oceans and the presence of devil in them

+ Allah the only God the high states: (And of the Shayâtîn (devils from the jinn) were some who dived for him, and did other work besides that; and it was We Who guarded them.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan) [189]

+ Allah the almighty says: (And also the Shayâtîn (devils) from the jinn (including) every kind of builder and diver, — Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan) [190]

# Jabir reported that Allaah's Messenger (peace and blessings on him) said:" iblis places his throne upon water; he then sends detachments (for creating dissension); the nearer to him in rank are those who are most notorious in creating dissension. One of them comes and says: I did so and so. And he says: You have done nothing. Then one amongst them comes and says: I did not spare so and so until I sowed the seed of discord between a husband and a wife. The Satan goes near him and says: 'You have done well. A'mash said: He then embraces him."[191]

One can postulate from this saying that near the surface of water their prevalence increase (which means they are abundant in number near the surface of the water). Also, can conclude that they are present in deep sea places.

The above two verses prove that the devils are present inside the sea water. This in turn means that the basic structures of their horns can be detected in seas and oceans (viruses associated withbiofilms). In addition, animals follow the commands of their masters. In consequence, the cells of the devil animals can be also found inside sea water (fungal and protozoal

188 López D, Vlamakis H, Kolter R. Biofilms. Cold Spring Harb Perspect Biol. 2010 Jul;2(7):a000398. doi: 10.1101/cshperspect.a000398. Epub 2010 Jun 2. PMID: 20519345; PMCID: PMC2890205.

189 Quran, Chapter 21(Al-Anbya), verse 82

190 Quran, Chapter 38 (Saad), verse 37

191 Sahih Muslim, book (52) Characteristics of the Day of Judgment, Paradise, and Hell, (16) Chapter: The Mischief of The Shaitan And How He Sends His Troops To Tempt People, And With Every Person There Is A Qarin (Companion From Among The Jinn), hadith no. 2813b.

biofilms). Moreover, this means that there are large, developed and sophisticated communities of jinns with different complex behavior inside oceans.

## Marine microbiome:

# N RAMAIAH. ; Sarma, V. V. S. S. ; Gauns, Mangesh ; Dileep Kumar, M. ; Madhupratap, M (2000) say: "Bacterial abundance and production, numbers, sizes and concentrations of transparent exopolymer particles (TEP) and total organic carbon (TOC) were measured during the 1996 summer monsoon to understand the relationship between TEP, the most labile particulate organic carbon, and bacteria. While high regional variability in the vertical distribution of TOC was discernible, TEP concentrations were high in surface waters at 18--20_N along 64_E with concentrations well over 25 mg alginic acid equivalents $l^{-1}$ due to upwelling induced productivity".[192]

It can be seen that bacteria are abundant in water near the surface and some types of them can live deep inside water.

# Woodall LC et. al 2018: "The deep sea is the largest biome on earth, and microbes dominate in biomass and abundance. Anthropogenic litter is now almost ubiquitous in this biome, and its deposition creates new habitats and environments, including for microbial assemblages. With the ever-increasing accumulation of this debris, it is timely to identify and describe the bacterial and archaeal communities that are able to form biofilms on macrodebris in the deep sea".[193]

Therefore, one can decide that there are microbiomes inside water.

## Virome in the deep seas:

# Ding, W., Wang, R., Liang, Z. et al have discussed: Recent metagenomics surveys have provided insights into the marine virosphere. However, these surveys have focused solely on viruses in seawater, neglecting those associated with biofilms. By analyzing 1.75 terabases of

192 N RAMAIAH. ; Sarma, V. V. S. S. ; Gauns, Mangesh ; Dileep Kumar, M. ; Madhupratap, M. Abundance and relationship of bacteria with transparent exopolymer particles during the 1996 summer monsoon in the Arabian Sea, Proc. Indian Acad. Sci. (Earth Planet. Sci.), 109, No. 4, December 2000, pp. 443—451

193 Woodall LC, Jungblut AD, Hopkins K, Hall A, Robinson LF, Gwinnett C, Paterson GLJ. Deep-sea anthropogenic macrodebris harbours rich and diverse communities of bacteria and archaea. PLoS One. 2018 Nov 28;13(11):e0206220. doi: 10.1371/journal.pone.0206220. PMID: 30485275; PMCID: PMC6261660.

biofilm metagenomic data, 3974 viral sequences were identified from eight locations around the world. Over 90% of these viral sequences were not found in previously reported datasets. Comparisons between biofilm and seawater metagenomes identified viruses that are endemic to the biofilm niche. Analysis of viral sequences integrated within biofilm-derived microbial genomes revealed potential functional genes for trimeric autotransporter adhesin and polysaccharide metabolism, which may contribute to biofilm formation by the bacterial hosts.[194]

# Zeghal Emna, et al have reviewed: Although many studies have focused on microbial colonization and the potential role of microorganisms in breaking down marine plastic debris, little is known about fungi-plastic interactions. Marine fungi are a generally understudied group of microorganisms but the ability of terrestrial and lacustrine fungal taxa to metabolize recalcitrant compounds, pollutants, and some plastic types (e.g., lignin, solvents, pesticides, polyaromatic hydrocarbons, polyurethane, and polyethylene) indicates that marine fungi could be important degraders of complex organic matter in the marine realm, too. Indeed, recent studies demonstrated that some fungal strains from the ocean, such as *Zalerion maritimum* have the ability to degrade polyethylene.[195]

There are many studies affirming the fact that there are marine fungi and viromes.

## 4.3. Jinn in Atmosphere

+ Narrated `Aisha: I heard Allah's Messenger (ﷺ) saying, "The angels descend, the clouds and mention this or that matter decreed in the Heaven. The devils listen stealthily to such a matter, come down to inspire the soothsayers with it, and the latter would add to it one-hundred lies of their own."[196]

194 Ding, W., Wang, R., Liang, Z. *et al.* Expanding our understanding of marine viral diversity through metagenomic analyses of biofilms. *Mar Life Sci Technol* (2021). https://doi.org/10.1007/s42995-020-00078-4

195 Zeghal Emna, Vaksmaa Annika, Vielfaure Hortense, Boekhout Teun, Niemann Helge, The Potential Role of Marine Fungi in Plastic Degradation – A Review, Frontiers in Marine Science, 8, 2021, https://www.frontiersin.org/article/10.3389/fmars.2021.738877 , DOI=10.3389/fmars.2021.738877, ISSN=2296-7745

196 Sahih al Bukhari, book of Beginning of Creation (59), (6) Chapter: The reference to angels, hadith no. 3210.

The other narration of this saying it is stated that one devil will ride on top of each other. Hence, one type can fly or clim to the clouds which means that they can be found in the atmosphere.

## Microbiomes of the atmosphere:

# Christner, B., Morris, C., Foreman, C., Cai, R., & Sands, D. (2008) have said: "Despite the integral role of ice nucleators (IN) in atmospheric processes leading to precipitation, their sources and distributions have not been well established. We examined IN (ice nucleators) in snowfall from mid- and high-latitude locations and found that the most active were biological in origin. Of the IN larger than 0.2 micrometer that were active at temperatures warmer than -7∘C, 69 to 100% were biological, and a substantial fraction were bacteria. Our results indicate that the biosphere is a source of highly active IN and suggest that these biological particles may affect the precipitation cycle and/or their own precipitation during atmospheric transport".[197]

# Natasha DeLeon-Rodriguez, et al. (2013) say: "The composition and prevalence of microorganisms in the middle-to-upper troposphere (8–15 km altitude) and their role in aerosol-cloud-precipitation interactions represent important, unresolved questions for biological and atmospheric science. In particular, airborne microorganisms above the oceans remain essentially uncharacterized, as most work to date is restricted to samples taken near the Earth's surface. Here we report on the microbiome of low- and high-altitude air masses sampled onboard the National Aeronautics and Space Administration DC-8 platform during the 2010 Genesis and Rapid Intensification Processes campaign in the Caribbean Sea. The samples were collected in cloudy and cloud-free air masses before, during, and after two major tropical hurricanes, Earl and Karl. Quantitative PCR and microscopy revealed that viable bacterial cells represented on average around 20% of the total particles in the 0.25- to 1-μm diameter range and were at least an order of magnitude more abundant than fungal cells, suggesting that bacteria represent an important and underestimated fraction of micrometer-sized atmospheric aerosols. The samples from the two hurricanes were characterized by significantly different bacterial

197 Christner, B., Morris, C., Foreman, C., Cai, R., & Sands, D. (2008). Ubiquity of Biological Ice Nucleators in Snowfall Science, 319(5867), 1214 DOI:10.1126/science.1149757

communities, revealing that hurricanes aerosolize a large amount of new cells. Nonetheless, 17 bacterial taxa, including taxa that are known to use C1–C4 carbon compounds present in the atmosphere, were found in all samples, indicating that these organisms possess traits that allow survival in the troposphere. The findings presented here suggest that the microbiome is a dynamic and underappreciated aspect of the upper troposphere with potentially important impacts on the hydrological cycle, clouds, and climate".[198]

One can understand from the studies above that bacteria and fungi are available in great no. even in high altitudes in the atmosphere. They are even there during tough storms. This must mean that they (their cells) have a survival mechanism through which they can live, remain, and survive these vigorous conditions. Also, as our prophet said they can be obtainable in the atmosphere (flying).

## 4.4. Jinn in the soil:

### 4.4.1. their presence in soil

# Jabir reported: I heard Allah's Apostle (ﷺ) as saying: The Satan is present with any one of you in everything he does; he is present even when he eats food; so if any one of you drops a mouthful he should remove away anything filthy on it and eat it and not leave for the devil; and when he finishes (food) he should lick his fingers, for he does not know in what portion of his food the blessing lies [199]

The prophet (peace and blessings be on him) clearly states in the former saying that they can be found in the soil (Which means they could be found on and in the soil alongside with their horns(viruses)).

198 Natasha DeLeon-Rodriguez, Terry L. Lathem, Luis M. Rodriguez-R, James M. Barazesh, Bruce E. Anderson, Andreas J. Beyersdorf, Luke D. Ziemba, Michael Bergin, Athanasios Nenes, and Konstantinos T. Konstantinidis Microbiome of the upper troposphere: Species composition and prevalence, effects of tropical storms, and atmospheric implications, PNAS 2013 110: 2575-2580.

199 Sahih muslim, the bookof drinks (36), (18) Chapter: It is recommended to lick one's fingers and wipe the bowl, and to eat a piece of food that is dropped after removing any dirt on it. It is disliked to wipe one's hand before licking it, because of the possibility that the blessing of the food may be in that remaining part. The Sunnah is to eat with three fingers, hadith no. 2033 d

### Soil microbiomes:

# Chan-Wen Xu et al. (2011) say:" This study evaluated the soil characteristics and nitrogen-fixing bacterial (NFB) communities inhabiting the rhizosphere of an invasive plant, Ageratina adenophora, in Southwest of China. In a large geographic range, heavily invaded (HI) soils generally had higher nutrient levels compared with lightly invaded (LI) and non-invaded (NI) ones. The NFB number and species diversity of HI soils were significantly greater than those of NI ones. A total of 416 NFB isolates were divided into 47 operational taxonomic units (OTUs). They were phylogenetically categorized into Proteobacteria (63.9%), Actinobacteria (32.2%), Firmicutes (1.9%) and Bacteroidetes (1.9%). At a lower taxonomic level, these isolates were grouped into 20 genera, among which, the dominant isolates".[200]

# Santos-Medellin C, Zinke LA, Ter Horst AM, Gelardi DL, Parikh SJ, Emerson JB. Have found: Overall, our results highlight the utility of soil viromics and reveal similarities between viral and microbial community dynamics throughout the tomato growing season yet suggest a partial decoupling of the processes driving their spatial distributions, potentially due to differences in dispersal, decay rates, and/or sensitivities to soil heterogeneity. [201]

This study shows that the soil could be resided by these creatures along with viruses.

## 4.4.2. the builder satans

+ Allah the most knowledgeable says: And also, the Shayâtîn (devils) from the jinn (including) every kind of builder and diver,

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[202]

Some Builders in the past used to mix water and soil to make clay as a building tool and material. This gives a clue that builder satan used to retain water in some are of soil to increase it hardness (firmness).

200 Xu, Chan-Wen & Yang, Ming-Zhi & Chen, Yun-Jiao & Chen, Li-Min & Zhang, De-Zhu & Mei, Liang & Shi, Yun-Tao & Zhang, Han-Bo. (2012). Changes in non-symbiotic nitrogen-fixing bacteria inhabiting rhizosphere soils of an invasive plant Ageratina adenophora. Applied Soil Ecology. 54. 32–38. 10.1016/j.apsoil.2011.10.021.

201 Santos-Medellin C, Zinke LA, Ter Horst AM, Gelardi DL, Parikh SJ, Emerson JB. Viromes outperform total metagenomes in revealing the spatiotemporal patterns of agricultural soil viral communities. ISME J. 2021 Jul;15(7):1956-1970. doi: 10.1038/s41396-021-00897-y. Epub 2021 Feb 21. PMID: 33612831; PMCID: PMC8245658.

202 Quran, Chapter 38 (Saad), verse 37

## The microbiome in soil and its role in soil cementation and water retention

# Shariq AF, Beyenal H, Akin ID. Have found: Bio-mediated ground improvement is an attractive alternative to traditional admixtures for strength improvement of shallow surfaces because it is environmentally friendly. Since biofilms contain extracellular polymeric substances (EPS), they can be considered as an alternative to current technologies to improve soil strength. EPS containing biofilms are porous materials with charged surfaces, and therefore adsorption and capillary condensation can result in water retention. Currently, most of the literature work only tested soil improvement under the dry condition. Therefore, the influence of water retention by biofilms on the strength of improved soil remains unclear. Our goal is to evaluate the strength of a biofilm-enhanced sand over a wide range of saturations and explain the trends through the suction stress characteristic curve (SSCC), which quantifies interparticle adsorptive, capillary, and cementation forces as a function of saturation. We used homogenized anaerobic granule biofilms from an existing upflow anaerobic sludge blanket reactor and mixed it with sand to test the strength of a poorly-graded sand in a wide range of saturations, *S* (between 0.02 *S* and 0.74 *S*). We found that biofilm treatment of sand increases soil strength through cementation over a wide range of saturations and through adsorptive forces among sand, biofilm surfaces, and water molecules at low saturations ($S < \sim 0.3$). Our results suggested that homogenized biofilms mixed with sand can be used to improve the strength of sand over a wide range of saturations. [203]

## 4.5. Inside Trashes and in Food leftovers

+ Waheed aabdusalam bali (may Allah bless him and protect him) said:
"In addition, they dwell the trashes and refuses, because they eat the leftovers of human beings' food as it is authentic in sahih muslim 450." [204]

+ The prophetic saying is: Dawud reported from 'Amir who said:
I asked 'Alqama if Ibn Mas'ud was present with the Messenger of Allah (ﷺ) on the night of the Jinn (the night when the Prophet met them). He (Ibn

[203] Shariq AF, Beyenal H, Akin ID. Biofilm addition improves sand strength over a wide range of saturations. Biofilm. 2021 Jun 10;3:100050. doi: 10.1016/j.bioflm.2021.100050. PMID: 34258578; PMCID: PMC8260866.
204 waheed aabdusalam bali. The prevention from jinn and satan (wqayat_alinsan) page 25. dar ul bashaer.

Mas'uad) said: No, but we were in the company of the Messenger of Allah (ﷺ) one night and we missed him. We searched for him in the valleys and the hills and said, He has either been taken away (by jinn) or has been secretly killed. He (the narrator) said: We spent the worst night which people could ever spend. When it was dawn, we saw him coming from the side of Hiri'. He (the narrator) reported: We said: Messenger of Allah, we missed you and searched for you, but we could not find you and we spent the worst night which people could ever spend. He (the Holy Prophet) said:" There came to me an inviter on behalf of the Jinn and I went along with him and recited to them the Qur'an. He (the narrator) said: He then went along with us and showed us their traces and traces of their embers. They (the Jinn) asked him (the Holy Prophet) about their provision and he said: Every bone on which the name of Allah is recited is your provision (food). The time it will fall in your hand it would be covered with flesh, and the dung of (the camels) is fodder for your animals. The Messenger of Allah (ﷺ) said: Don't perform istinja (cleaning private parts) with these (things) for these are the food of your brothers (Jinn)."[205]

+ Narrated Abu Huraira: That once he was in the, company of the Prophet carrying a water pot for his ablution and for cleaning his private parts. While he was following him carrying it (i.e., the pot), the Prophet said, "Who is this?" He said, "I am Abu Huraira." The Prophet said, "Bring me stones in order to clean my private parts, and do not bring any bones or animal dung." Abu Huraira went on narrating: So, I brought some stones, carrying them in the corner of my robe till I put them by his side and went away. When he finished, I walked with him and asked, "What about the bone and the animal dung?" He said, "They are of the food of jinns. The delegate of jinns of (the city of) Nasibin came to me--and how nice those jinns were--and asked me for the remains of the human food. I invoked Allah for them that they would never pass by a bone or animal dung but find food on them."[206]

The information that can be extracted from this prophetic saying is that jinnis are able to feed (eat food). This means they have the ablility to digest food. This leads to the fact that their bodies have the abilities to secret

205Sahih al bukhari, book 4, hadith 169. http://sunnah.com/muslim/4/169
206 Sahih albukhari, book 63, hadith 86. http://sunnah.com/bukhari/63/86

digestive enzymes. Furthermore, their ability to eat food is much slower than humans as a bone is denaturing very slowly (the number of digestive enzymes they produce may be little). In addition, their bodily cells can be found on food left overs. Adding to all those previous informations is the fact that they have animals of their own kind. This was discussed in the previous chapter.

### Biofilms inside trashes:

#Miho Aoshima et al (2001) have written:" A commercially available composter was operated using fixed composition of garbage with or without the addition of soybean oil. The composter was operated without adding seed microorganisms or bulking materials. Microflora within the composter were analyzed by denaturing gradient gel electrophoresis (DGGE) in the case of oil addition, or by 16/18 S rRNA gene sequencing of the isolated microorganisms in the case of no oil addition. The results showed that, irrespective of the addition of oil, the bacteria identified were all gram positive, and that lactobacilli seemed to be the key microorganisms".[207]

Accordingly, bacteria are found in the food leftovers and inside trashes even with no addition of bacterial seeds.

## 4.6. Outside the earth

the jinn can exist in and on places other than the earth.

+Allah (the glorified) says: O assembly of jinn and men! If you have power to pass beyond the zones of the heavens and the earth, then pass beyond (them)! But you will never be able to pass them, except with authority from Allah [208]

+Allah (the glorified) says: And indeed, We have put the big stars in the heaven and We beautified it for the beholders. (16) And We have guarded

207 Miho Aoshima, Mannix Salvador Pedro, Shin Haruta, Linxian Ding, Tomoko Fukada, Asuka Kigawa, Tohru Kodama, Masaharu Ishii, Yasuo Igarashi, Analyses of microbial community within a composter operated using household garbage with special reference to the addition of soybean oil, Journal of Bioscience and Bioengineering, Volume 91, Issue 5, 2001, Pages 456-461, ISSN 1389-1723, 10.1016/S1389-1723(01)80273-5. (http://www.sciencedirect.com/science/article/pii/S1389172301802735

208 Al Quran, surah (chapter) Alrahman 55, verse 33

it (near heaven) from every outcast devil. (17) Except him (devil) who steals the hearing then he is pursued by a clear flaming fire. (18) [209]

+ In the explanation of these verses the cousin of the prophet narrated a saying: Abdullah. Ibn Abbas reported: A person from the Ansar (supporters of the prophet) who was amongst the Companions of Allah's Messenger (peace and blessings on him) reported to me: As we were sitting during the night with Allah's Messenger (peace and blessings on him), a meteor shot gave a dazzling light. Allah's Messenger (peace and blessings on him) said: What did you say in the pre-Islamic days when there was such a shot (of meteor)? They said: Allah and His Messenger know best (the actual position), but we, however, used to say that that very night a great man had been born and a great man had died, whereupon Allah's Messenger (peace and blessings on him) said: (These meteors) are shot neither at the death of anyone nor on the birth of anyone. Allah, the Exalted and Glorious, issues Command when He decides to do a thing. Then the Angels carrying the Throne sing His glory, then sing the dwellers of heaven who are near to them until this glory of God reaches them who are in the heaven of this world. Then those who are near the supporters of the Throne ask these supporters of the Throne: What your Lord has said? And they accordingly inform them what He says. Then the dwellers of heaven seek information from them until this information reaches the heaven of the world. In this process of transmission (the jinn snatches) what he manages to overhear and he carries it to his friends. And when the Angels see the jinn they attack them with meteors. If they narrate only which they manage to snatch that is correct but they alloy it with lies and make additions to it."[210]

If anyone says that the heavens mentioned here are the atmosphere and the layers of air that are directly surrounding the earth layer that we live in! then this verse proves them wrong.

+Allah the glorified says: And indeed We have adorned the nearest heaven with lamps, and We have made such lamps (as) missiles to drive away the devils, and have prepared for them the torment of the blazing Fire (5). [211]

209 Al Quran, Surah Alhijir 15, verses16-18

210 Sahih Muslim, Book 39, hadith 171. http://sunnah.com/muslim/39/171

211 Al Quran, Surah Al Mulk 67: Verse 5

Hence in the nearest heavens are beautified with stars then the lowest heaven is definitely beyond the earth's atmosphere. Furthermore, one can conclude that the remains of the jinns' burnt cells will be found on the meteor. Also, that jinn can survive the atmosphere outside the earth's boundaries.

**Bacteria in the outer space and their remains on meteors:**

# http://science.nasa.gov/science-news/science-at-nasa/1998/ast01sep98_1/: on 14/2/2012

in this article the following is written: "Space historians will recall that the journey to the stars has more than one life form on its passenger list: the names of a dozen Apollo astronauts who walked on the moon and one inadvertent stowaway, a common bacteria, Streptococcus mitis, the only known survivor of unprotected space travel. As Marshall astronomers and biologists met recently to discuss biological limits to life on Earth, the question of how an Earth bacteria could survive in a vacuum without nutrients, water and radiation protection was less speculative than might first be imagined".

# Gillet Ph et al (2000) authors say: "We present a study of the textural signature of terrestrial weathering and related biological activity in the Tatahouine meteorite. Scanning and transmission electron microscopy images obtained on the weathered samples of the Tatahouine meteorite and surrounding soil show two types of bacteria-like forms lying on mineral surfaces: (1) rod-shaped forms (RSF) about 70-80 nm wide and ranging from 100 nm to 600 nm in length; (2) ovoid forms (OVF) with diameters between 70 and 300 nm. They look like single cells surrounded by a cell wall. Only Na, K, C, O and N with traces of P and S are observed in the bulk of these objects. The chemical analyses and electron diffraction patterns confirm that the RSF and OVF cannot be magnetite or other iron oxides, iron hydroxides, silicates or carbonates. The sizes of the RSF and OVF are below those commonly observed for bacteria but are very similar to some bacteria-like forms described in the Martian meteorite ALH84001. All the previous observations strongly suggest that they are bacteria or their remnants. This conclusion is further supported by microbiological experiments in which pleomorphic bacteria with morphology similar to the OVF and RSF objects are obtained from biological culture of the soil

surrounding the meteorite pieces. The present results show that bacteriomorphs of diameter less than 100 nm may in fact represent real bacteria or their remnants."[212]

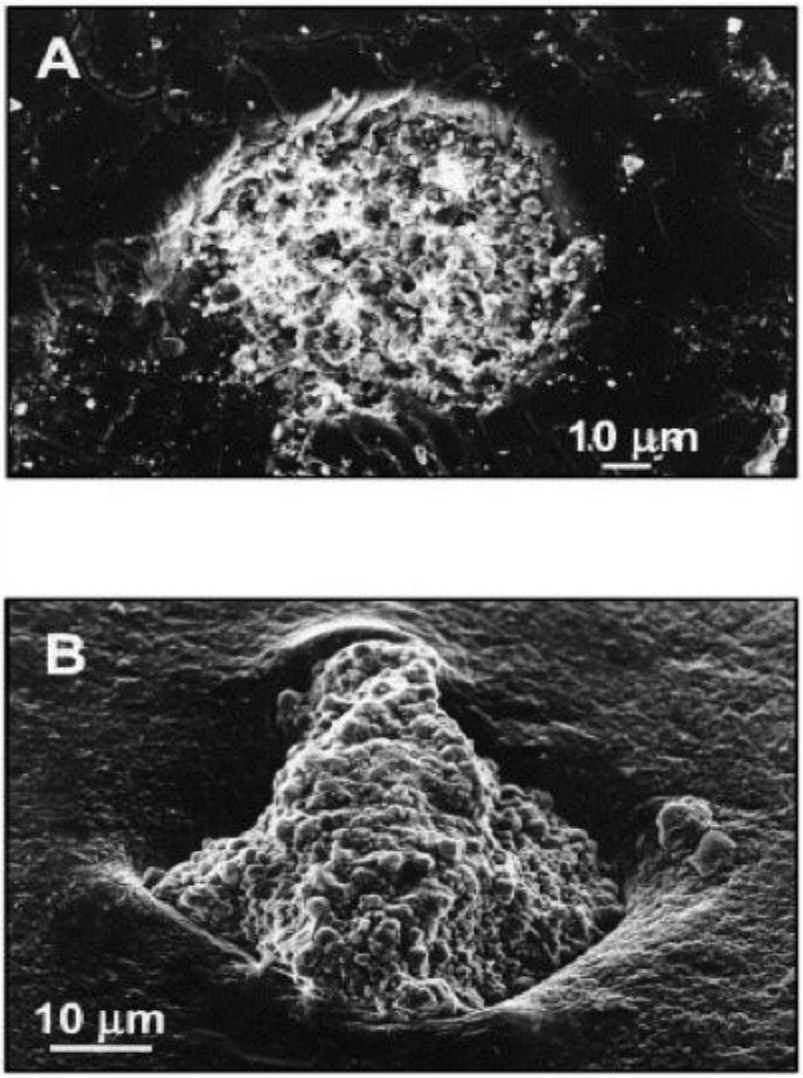



Image. 12. A comparison between remnants on meteorites and bateriomorphs. Image from. https://microbewiki.kenyon.edu/index.php /Bacterial_Fossils_in_Meteorites

**212** Gillet Ph, Barrat JA, Heulin Th, Achouak W, Lesourd M, Guyot F, Benzerara K. Bacteria in the Tatahouine meteorite: nanometric-scale life in rocks. Earth Planet Sci Lett. 2000 Feb 15;175(3-4):161-7.

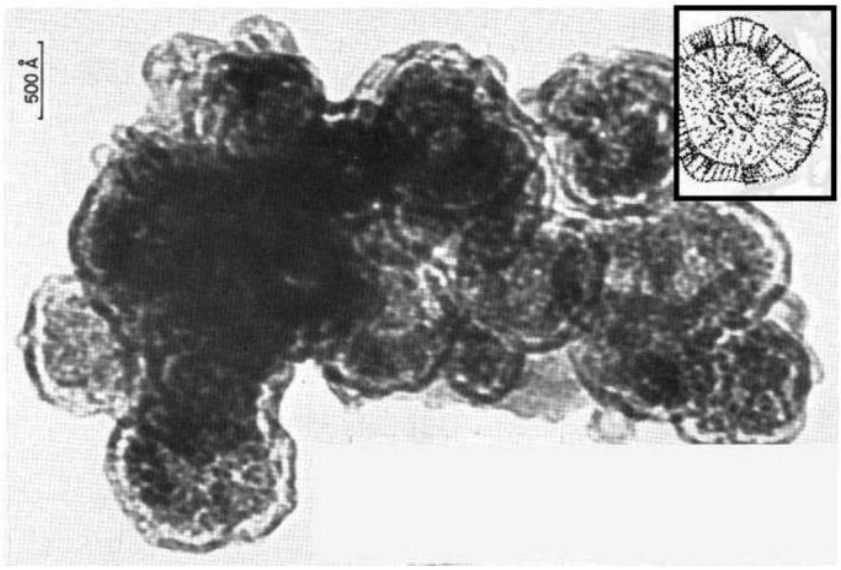



Image 13. Electron micrograph of organic structure within the Murchison meteorite compared with sketch of the structure of an influenza virus.

Published in Wickramasinghe, N. C., Steele, E. J., Gorczynski, R. M., Temple, R., Tokoro, G., Klyce, B., et al. (2020). Comments on the origin and spread of the 2019 coronavirus. *Virology: Current Research 4*, 1. doi: 10.37421/Virol Curr Res.2020.4.435.

# Wickramasinghe NC, Steele EJ, Temple R, Tokoro G, Smith WA, Klyce B, Wickramasinghe DT, Arachchi DM. have discussed: Organic structures identifiable with bacteria, eukaryotic cells, and viruses have been reported in carbonaceous meteorites over several decades, including studies by Pflug in the 1980, and Richard Hoover in more recent times. Fig. 3 shows carbonaceous structures in the Murchison meteorite identified with fossilized microbiota. The morphological resemblance of the virus-like carbonaceous structure identified by Plug is astoundingly similar to the coronavirus (Fig. 4 ). In 2013 a fall of carbonaceous stones in Sri Lanka also revealed distinctly biological structures as shown in Fig. 5 . However, because this latter fall occurred over a remote part of the island and no video record was available, this event has not yet been registered as an official meteorite fall.[213]

## 4.7. Jinn in lavatories:

Will come in the following chapter.

213 Wickramasinghe NC, Steele EJ, Temple R, Tokoro G, Smith WA, Klyce B, Wickramasinghe DT, Arachchi DM. Experiments to prove continuing microbial ingress from Space to Earth. Adv Genet. 2020;106:133-143. doi: 10.1016/bs.adgen.2020.03.006. Epub 2020 Jul 7. PMID: 33081923; PMCID: PMC7340390.

## 4.8. summary of chapter four:

In this chapter we have encountered the informations regarding their habitat and dwelling places. The resemblance is becoming strikingly much more apparent and astonishingly clearer. Firstly, these creatures have different specialty and dwelling places. They, can be found in sea water along with their horns(viruses). Also, they can be found in the air (atmosphere), soil and trashes (food leftovers). The most controversial dwelling is the presence of their remanants on meteors.

# 5. chapter five: The Attached jinn to the humans:

## 5.1. The evidence:

+ Abdullah ibn Mas'ud reported that Allaah's Messenger (peace and blessings on him) said: "There is none amongst you with whom is not an attache from amongst the jinn (devil). They (the Companions) said: Allaah's Messenger, with you too? Thereupon he said: Yes, but Allaah helps me against him and so I am safe from his hand and he does not command me but for good. "[214]

## 5.2. The origin of each human attache or comrade

### 5.2.1. time of first presence with each human:

+ Narrated Ibn 'Abbas: Allah's Apostle said, "If anyone of you, when intending to have a sexual relation (sleep) with his wife, says: Bismillah, Allahumma jannibna ashshaitan, wa Jannib ash-shaitana ma razaqtana, satan would never harm that child, should it be ordained that they will have one (Because of that sleep). "[215]

The meaning of this hadith: -Bismillah, = means in the name of ALLAH
-Allahumma jannibna ashshaitan, = O ALLAH keep satan away from us
-wa Jannib ash-shaitana ma razaqtana= and keep away satan from what you have given us (child). (from the moment of being a sperm and a fetus as we are taught to say this supplication during intercourse. It is well known that at least it takes six months for the child to be born. This leads to the clue that parents'satan can harm the embryo inside the uterus and planceta (but this is the parents one). This will be confirmed in the next few sections.

+ Allah the most gracious says: Then when she gave birth to her [child Maryam (Mary)], she said: "O my Lord! I have given birth to a female child," - and Allâh knew better what she brought forth, - "And the male is not like the female, and I have named her Maryam (Mary), and I seek refuge with You (Allâh) for her and for her offspring from Shaitân (Satan), the outcast."

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[216]

214Sahih muslim, book 52, hadith 62. http://sunnah.com/muslim/52/62
215 Sahih Al Bukhari, Book 97, Hadith 25. http://sunnah.com/bukhari/97/25
216 Quran, chapter 3 (Al Imraan), verse 36

**+ Narrated Abu Huraira:** The Prophet (ﷺ) said, "When any human being is born. Satan touches him at both sides of the body with his two fingers, except Jesus, the son of Mary, whom Satan tried to touch but failed, for he touched the placenta-cover instead."[217]

**+Narrated Sa`id bin Al-Musaiyab:** Abu Huraira said, "I heard Allah's Messenger (ﷺ) saying, 'There is none born among the off-spring of Adam, but Satan touches it. A child therefore, cries loudly at the time of birth because of the touch of Satan, except Mary and her child." Then Abu Huraira recited: "And I seek refuge with You for her and for her offspring from the outcast Satan" [218]

- These sayings and verses lead to the fact that Every baby cry because of feeling of pain as satan touches them during birth. This results in the fact that satan is present at birth. Here, in this section all the metioned texts refer that satan is present on the human skin and other-where in and on the human body just after being born. Which inturn means that we can find the cells of satan on the skin and in other organs of humans right after birth.

## The Human gut microbiota before, during and after birth

#Ventura M, Milani C, Lugli GA, van Sinderen D. have reviewed: The establishment of the infant gut microbiota is the result of a complex process that is influenced by many environmental and host factors (Rodriguez et al., 2015). Notably, although the dogma of a sterile in utero environment, which claims that microbial colonization only commences upon birth, is still generally accepted, there is growing evidence indicating that very early colonization of humans may occur at the fetal stage (Jimenez et al., 2005; DiGiulio et al., 2008; Aagaard et al., 2014). The route by which bacteria achieve this prebirth colonization is still obscure. However, the recent discovery of a circulating microbiota that is present in human blood (Kowarsky et al., 2017) is not only reinforcing the notion that there is not any human organ that is completely sterile, but also lending further support to the hypothesis of a prenatal establishment of the gut microbiota. This perception may facilitate new research avenues and possible manipulation of the human gut microbiota through probiotic intervention during pregnancy…….In

217 Sahih Al bukhari, Book of beginning of creation (59), chapter (11) The characteristics of Iblis (Satan) and his soldiers, hadith no. 3286

218 Sahih AlBukhari, book of Prophets (60), Chapter (44): The Statement of Allah Taa'la: "And mention in the Book, Maryam...", hadith no. 3431

addition, diet, mother's age and metabolic status, family genetics and lifestyle have been described to influence the infant gut microbiota composition (Milani et al., 2017).…….The origin of the human gut microbiota is associated with the inheritance of an assemblage of microorganisms that are vertically transmitted from mother to her offspring. Remarkably, the mammalian newborn does not appear to passively acquire a new microbiota, but the mother seems to actively promote the transfer of specific members of her microbiota to her offspring and may thus directly influence the development of the new microbiota of her child.[219]

# Shao, Y., Forster, S.C., Tsaliki, E. *et al.* have suggested the following: Immediately after birth, newborn babies experience rapid colonization by microorganisms from their mothers and the surrounding environment. Diseases in childhood and later in life are potentially mediated by the perturbation of the colonization of the infant gut microbiota. However, the effects of delivery via caesarean section on the earliest stages of the acquisition and development of the gut microbiota, during the neonatal period (≤1 month), remain controversial. ……We applied longitudinal sampling and whole-genome shotgun metagenomic analysis to 1,679 gut microbiota samples (taken at several time points during the neonatal period, and in infancy) from 596 full-term babies born in UK hospitals; for a subset of these babies, we collected additional matched samples from mothers (175 mothers paired with 178 babies). This analysis demonstrates that the mode of delivery is a significant factor that affects the composition of the gut microbiota throughout the neonatal period, and into infancy. Matched large-scale culturing and whole-genome sequencing of over 800 bacterial strains from these babies identified virulence factors and clinically relevant antimicrobial resistance in opportunistic pathogens that may predispose individuals to opportunistic infections. Our findings highlight the critical role of the local environment in establishing the gut microbiota in very early life, and identify colonization with antimicrobial-

219 Ventura M, Milani C, Lugli GA, van Sinderen D. Health benefits conferred by the human gut microbiota during infancy. Microb Biotechnol. 2019 Mar;12(2):243-248. doi: 10.1111/1751-7915.13334. Epub 2018 Nov 8. PMID: 30411507; PMCID: PMC6389842.

resistance-containing opportunistic pathogens as a previously underappreciated risk factor in hospital births.[220]

# Sanger.ac.uk website has posted: Babies born vaginally have different gut bacteria – their microbiome – than those delivered by Caesarean, research has shown. Scientists from the Wellcome Sanger Institute, UCL, the University of Birmingham and their collaborators discovered that whereas vaginally born babies got most of their gut bacteria from their mother, babies born via caesarean did not, and instead had more bacteria associated with hospital environments in their guts.[221]

# Mutic AD, Jordan S, Edwards SM, Ferranti EP, Thul TA, Yang I. have mentioned: Biological and environmental changes to maternal and newborn microbiomes in the postnatal period can affect health outcomes for the mother-baby dyad. Postpartum sleep deprivation and unmet dietary needs can alter commensal bacteria within the body and disrupt gut-brain communication. Perineal injury and breast infections also change microbial community composition, potentiating an environment favoring pathogen growth. The gut microbiome refers to the collection of microorganisms working in harmony. Disruptions within the gut microbiome and gut-brain communication may lead to postpartum depression, a potentially devastating sequela. Postnatal newborn changes to the gut and skin microbiome materialize quickly after birth and are profoundly influenced by mode of birth, feeding method, and bathing and skin care practices. During the newborn period, infant microbiomes are highly vulnerable and susceptible to multiple influences. Maternal-newborn nurses have a valuable role in helping mothers and newborns promote healthy microbiomes. Factors that influence the rapidly changing postnatal microbiome of the mother and her newborn, and the role nurses have to positively influence immediate and long-term health outcomes are presented.[222]

# Reyman, M., van Houten, M.A., van Baarle, D. *et al.* have revealed: The early-life microbiome appears to be affected by mode of delivery, but this

220 Shao, Y., Forster, S.C., Tsaliki, E. *et al.* Stunted microbiota and opportunistic pathogen colonization in caesarean-section birth. *Nature* **574,** 117–121 (2019). https://doi.org/10.1038/s41586-019-1560-1

221 https://www.sanger.ac.uk/news_item/babies-gut-bacteria-affected-delivery-method-baby-biome-project-shows/

222 Mutic AD, Jordan S, Edwards SM, Ferranti EP, Thul TA, Yang I. The Postpartum Maternal and Newborn Microbiomes. MCN Am J Matern Child Nurs. 2017 Nov/Dec;42(6):326-331. doi: 10.1097/NMC.0000000000000374. PMID: 29049057; PMCID: PMC5649366.

effect may depend on intrapartum antibiotic exposure. Here, we assess the effect of delivery mode on gut microbiota, independent of intrapartum antibiotics, by postponing routine antibiotic administration to mothers until after cord clamping in 74 vaginally delivered and 46 caesarean section born infants. The microbiota differs between caesarean section born and vaginally delivered infants over the first year of life, showing enrichment of Bifidobacterium spp., and reduction of Enterococcus and Klebsiella spp. in vaginally delivered infants. The microbiota composition at one week of life is associated with the number of respiratory infections over the first year. The taxa driving this association are more abundant in caesarean section born children, providing a possible link between mode of delivery and susceptibility to infectious outcomes.[223]

All the above-mentioned papers indicate the fact that the dwelling human microbiota are definitely found around the time of birth.

### 5.2.2. The time of the presence of the first attaché and companion:

+ Allah the most magnificent says: And We have assigned for them (devils) intimate (in this world), who have made fair-seeming to them, what was before them (evil deeds which they were doing in the present worldly life and disbelief in the Reckoning and the Resurrection) and what was behind them (denial of the matters in the coming life of the Hereafter as regards punishment or reward). And the Word (i.e., the torment) is justified against them as it was justified against those who were among the previous generations of jinn and men that had passed away before them. Indeed they (all) were the losers.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[224]

This means that all the nations before us had a jinni or microbiota attached to their bodies since Adam (peace be on him).

### Human microbiota dates back to?

# Dunn Robert R., Amato Katherine R., Archie Elizabeth A., have found: Ultimately, what we are left with in regard to the potential influence of

223 Reyman, M., van Houten, M.A., van Baarle, D. *et al.* Impact of delivery mode-associated gut microbiota dynamics on health in the first year of life. *Nat Commun* **10,** 4997 (2019). https://doi.org/10.1038/s41467-019-13014-7

224 Quran, Chapter 41 (Fussilat), Verse 25

microbes on the evolution of hominins is a sketch. It is a rough sketch, subject to revision. And it is a sketch based on what we can observe today. We conclude by considering, even more speculatively, what might be. More specifically, we consider the possibility that some of the microbes associated with hominin microbiomes (be they those of stomachs, intestines, skin, the extended microbiome, or other microbiomes such as the breast milk microbiome or the vaginal microbiome, which differs greatly among primate species; Miller et al., 2016) might have directly favored particular kinds of social behavior and, in as much, account for two of the major social transitions in hominins: the transition to larger more sedentary populations and the transition to urban living. As we have already noted, human control over microbial populations might have facilitated such transitions (e.g., by allowing food storage and turning pathogenic water into non-pathogenic booze). In turn, could microbes have controlled human behavior? Recently, a number of microbes have been shown to control the social behavior of their hosts in ways that increase microbial fitness. The eukaryote, Salpingoeca rosetta, for instance, can lead a solitary or multicellular lifestyle. The transition between these two lifestyles is mediated by lipids produced by a Algoriphagus machipongonensis, its bacterial commensal. In other words, the products of the microbiome of this eukaryote determine whether or not it is social (Woznica et al., 2016). One might argue that the spread of yeast strains that produce more alcohol represents a relatively recent example of such a scenario (in which alcohol producing yeasts lead us to addiction, drunken social interactions and the desire for more products of such alcohol producing yeasts). But we can't yet preclude far more ancient influences of microbes on the ways in which we interact.[225]

# Davenport ER et al. have found: Although comparing non-Western to Western microbiomes offers insights into how modern diets and medicine shape microbiome composition, no living population today carries an "ancestral" microbiome. Rather, turning to ancient samples such as coprolites, dental calculus, tissue retrieved from permafrost, and

225 Dunn Robert R., Amato Katherine R., Archie Elizabeth A., Arandjelovic Mimi, Crittenden Alyssa N., Nichols Lauren M..The Internal, External and Extended Microbiomes of Hominins. Frontiers in Ecology and Evolution. 8, 2020, 25, https://www.frontiersin.org/article/10.3389/fevo.2020.00025, DOI=10.3389/fevo.2020.00025

mummified remains offers us a glimpse into what our microbiomes looked like throughout the course of hominin evolution.
Although coprolites or mummified intestinal contents give us the best snapshots of ancient gut microbiomes, typically these samples preserve poorly and not all profiled samples contain what we think of as gut microbes.
Dental calculus, on the other hand, preserves quite well. Diversity of oral microbiomes decreased with the advent of agriculture, as observed from a series of samples dated between 7000 years ago to modern day. Additionally, ancient oral microbiome samples carry both known opportunistic pathogens and, interestingly, putative antibiotic resistance genes.
Recently, sequencing of Neanderthal dental calculus samples from two caves revealed oral microbiomes that differed according to inferred meat eating behavior at each site. The microbiota of putatively meat-eating specimens closely resembles hunter-gatherer populations, while non-meat eating specimens resemble forager-gathering chimpanzees. Given the explosion in ancient DNA research, it is likely we will know much more about pre-historic human microbiomes within the next several years.[226]

These research and reviews refer to the fact that microbiomes were found even in ancient human beings.

## 5.3. The attached Jinn can run inside the Human Blood Vessels:

+ Anas reported that when Allah's Messenger (ﷺ) was in the company of one of his wives a person happened to pass by them. He called him and when he came, he said to him:" O so and so, she was my such and such wife. Thereupon he said, Allah's Messenger, if I were to doubt at all, I would have entertained no doubt about you at least. Thereupon Allah's Messenger (ﷺ) said: Verily Satan circulates in the body like blood."[227]
+ Narrated `Ali bin Al-Husain: Safiya, the wife of the Prophet (ﷺ) told me that she went to Allah's Messenger (ﷺ) to visit him in the mosque while he was in I`tikaf in the last ten days of Ramadan. She had a talk with him for

226 Davenport ER, Sanders JG, Song SJ, Amato KR, Clark AG, Knight R. The human microbiome in evolution. BMC Biol. 2017 Dec 27;15(1):127. doi: 10.1186/s12915-017-0454-7. PMID: 29282061; PMCID: PMC5744394.
227 Sahih Muslim, Book 39, hadith 32. http://sunnah.com/muslim/39/32

a while, then she got up in order to return home. The Prophet (ﷺ) accompanied her. When they reached the gate of the mosque, opposite the door of Um-Salama, two Ansari men were passing by and they greeted Allah's apostle. He told them: Do not run away! And said, "She is (my wife) Safiya bint Huyai." Both of them said, "Subhan Allah, (How dare we think of any evil) O Allah's Messenger (ﷺ)!" And they felt it. The Prophet said (to them), "Satan reaches everywhere in the human body as blood reaches in it, (everywhere in one's body). I was afraid lest Satan might insert an evil thought in your minds."[228]

This saying denotes that they (jinn) are found inside the humans where the blood can reach. It is very distinct to all those whom have knowledge. This inturn leads to the fact that bodily cells of satan, horns and animals be found inside human blood even during a healthy state (no obvious disease).

## Does Human blood microbiome present?

It is evident to everyone that bacteria can be found in blood of humans with sepsis.

# Marcia A. Ryder (2005) has written:" Almost all micro-organisms subsist in elaborate colonies that are embedded in biofilms of self-produced exo-polymer matrices. The biofilm allows the micro-organisms to adhere to any surface, living or nonliving. The adaptive and genetic changes of the micro-organisms within the biofilm make them resistant to all known antimicrobial agents. Thus, the diagnostic and therapeutic strategies used to fight acute infections are not effective in eradicating medical device biofilm-related infections or chronic biofilm diseases. Today, vascular catheter-related bloodstream infections are the most serious and costly healthcare-associated infections".[229]

228Sahih Al Bukhari, Book 33, hadith 10. http://sunnah.com/bukhari/33/10

229 Marcia A. Ryder, Catheter-Related Infections: It's All About Biofilm. Posted: 08/18/2005; Topics in Advanced Practice Nursing eJournal. 2005;5(3) © 2005 Medscape.

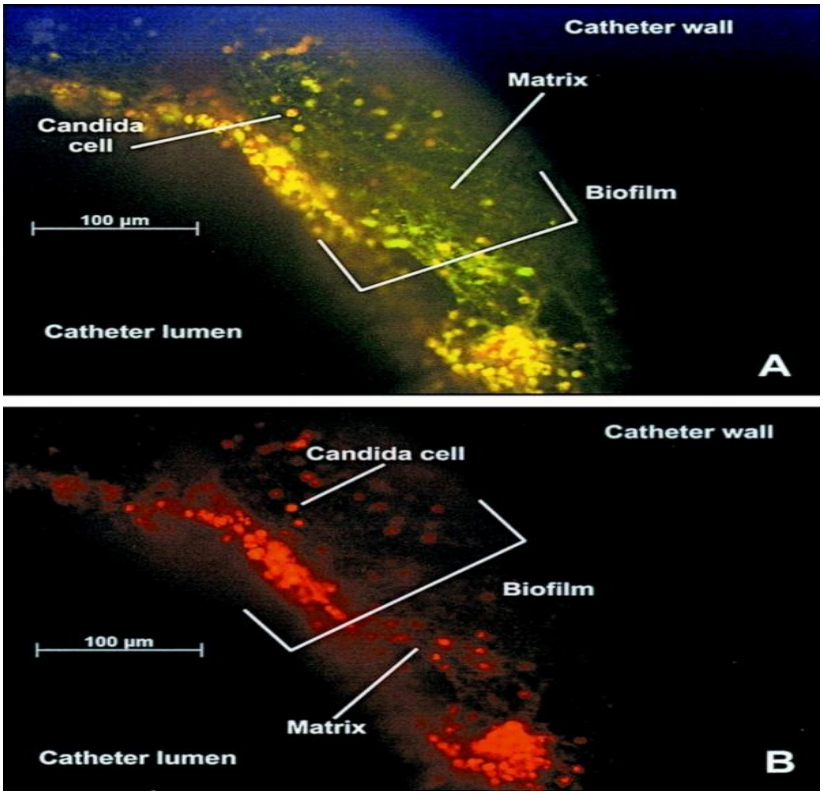



Image. 14. Biofilm inside catheters . image taken from Marcia A. Ryder, Catheter-Related Infections: It's All About Biofilm

# Richard W. McLaughlin et al (2002) authors say: "In our search for spirochetes involved in Alzheimer's disease, we observed pleomorphic bacteria in the blood of healthy human subjects by dark-field microscopy. This was a surprising finding since it is generally acknowledged that the blood stream in healthy humans is a sterile environment except when there is a breach in the integrity of the tissue membranes. However, the concept of the occurrence of bacteria in the blood of healthy humans is now more plausible because of cultivation-independent laboratory approaches……Our report of naturally occurring viable pleomorphic bacteria in the blood of healthy humans should not be controversial. G. Tedeshi et al. at the University of Camerino in Italy had reported the presence of similar bacteria as intraerythrocytic parasites of clinically healthy human subjects in 1969 in the journal Nature. They showed that red blood cells increased the uptake or incorporation of radioactive thymine, uridine, and glycine because of the presence of these bacteria. Incorporation of these compounds is not part of the normal metabolic activity of erythrocytes. The recent finding of bacterial 16S

rDNA in the blood of healthy human subjects by Nikkari et al. adds credibility to our findings". [230]

# CASTILLO DIEGO J. et al 2019 Say : ”Evidence indicative of the presence of a microbial component in the blood of healthy human individuals is, nevertheless, steadily accumulating and recent studies have identified comparable bacterial phyla in the blood of healthy individuals (McLaughlin et al., 2002; Amar et al., 2011, 2013; Dinakaran et al., 2014; Gosiewski et al., 2016; Païssé et al., 2016; Li et al., 2018; Loohuis et al., 2018; Whittle et al., 2018; Qiu et al., 2019). Not discounting the shortcomings of each of the cited studies, a coherent picture of the healthy HBM emerges when one considers the positive aspects introduced by each study. For example, the inclusion of microscopy (McLaughlin et al., 2002) and the application of both DNA (Dinakaran et al., 2014; Païssé et al., 2016; Li et al., 2018; Whittle et al., 2018) and RNA analyses to the blood of healthy individuals (Loohuis et al., 2018; Whittle et al., 2018). From the literature reviewed here, and taking into consideration the trend toward including analytical (positive and negative) controls in HBM-related studies (human blood microbiome), we conclude that the notion that a healthy (non-diseased) human blood-microbiome exists cannot simply be discarded.”[231]

These research and reviews clearly indicate that bacteria are found inside the blood of non-infected subjects. Also, there are tons of researches that prove that bacteria can be found inside the blood of the infected person in the biofilm form. The last literature review indicates the fact the healthy human blood microbiome can not be denied.

## 5.4. Jinn inside the ears and some of their products:

+Abdullah (son of Mas'ud) reported that a mention was made of a man who slept the whole night till morning. He (the Holy Prophet) remarked:

230 Richard W. McLaughlin, Hojatollah Vali, Peter C. K. Lau, Roger G. E. Palfree, Angela De Ciccio, Marc Sirois, Darakhshan Ahmad, Richard Villemur, Marcel Desrosiers and Eddie C. S. Chan. Are There Naturally Occurring Pleomorphic Bacteria in the Blood of Healthy Humans? J. Clin. Microbiol. 2002, 40(12):4771. DOI:

231 CASTILLO DIEGO J., RIFKIN RIAAN F., COWAN DON A., POTGIETER MARNIE. THE HEALTHY HUMAN BLOOD MICROBIOME: FACT OR FICTION?. FRONTIERS IN CELLULAR AND INFECTION MICROBIOLOGY. VOLUME=9, 2019.PAGES=148. URL=HTTPS://WWW.FRONTIERSIN.ORG/ARTICLE/10.3389/FCIMB.2019.00148 .DOI=10.3389/FCIMB.2019.00148. ISSN=2235-2988

"That is a man in whose ears (or in whose ear) the devil urinated."[232]

urine is one of the byproducts of satan in the ear of those who sleep till the sunrise and do not pray morning prayer. This means that those who do not pray the dawn prayer will have some of the urine material (of satan) inside their ears to appear as a normal composition of the earwax. This also, has the implication that satan will block the hearing of the humans to the call of the prayer (loud voice). Repeated blockade of the ear causes a permenant hearing loss or deficit. This means that the link between satan cells and hearing loss can be found for sure. Moreover, the cells of jinn can be found inside the external auditory meatus.

## The composition of earwax and ear bacteria?

# Bortz JT, Wertz PW, Downing DT (1990): "Lipids were extracted from "wet" cerumen and analyzed by quantitative thin-layer chromatography to determine their composition. The lipid fraction comprised 52% of the dry weight of cerumen and consisted of squalene (6.4%), cholesterol esters (9.6%), wax esters (9.3%), triacylglycerols (3.0%), fatty acids (22.7%), cholesterol (20.9%), ceramides (18.6%), cholesterol sulfate (2.0%), and several unidentified polar components (7.5)"[233]

It is obvious that a portion of the ear wax is made from wax esters and cholesterol ester.

# Barney BM, Wahlen BD, Garner E, Wei J, Seefeldt LC (2012): "Wax esters are produced in certain bacteria as a potential carbon and energy storage compound. The final enzyme in the biosynthetic pathway responsible for wax ester production is the bifunctional wax ester synthase/acyl-coenzyme A (acyl-CoA): diacylglycerol acyltransferase (WS/DGAT), which utilizes a range of fatty alcohols and fatty acyl-CoAs to synthesize the corresponding wax ester."[234]

Hence, bacteria can produce wax esters which are one the composition of earwax. Also, most of the the contents of the earwax are either materials

232 Sahih muslim, book 6, hadith 245. http://sunnah.com/muslim/6/245

**233** Bortz JT[1], Wertz PW, Downing DT. Composition of cerumen lipids. J Am Acad Dermatol. 1990 Nov;23(5 Pt 1):845-9.

**234** Barney BM, Wahlen BD, Garner E, Wei J, Seefeldt LC, Differences in substrate specificities of five bacterial wax ester synthases. Appl Environ Microbiol. 2012 Aug;78(16):5734-45. doi: 10.1128/AEM.00534-12. Epub 2012 Jun 8.

that can be easily metabolized or produced as a by-product by the gut microbiota (plethora of research and evidence are present) like cholesterol esters.

# Sjövall, Atte; Aho, Velma T.E; Hyyrynen, Taneli; Kinnari, Teemu J.; Auvinen, Petri; Silvola, Juha; Aarnisalo, Antti; Laulajainen-Hongisto, Anu, have illustrated : The most common bacteria in the microbiome of the healthy EAC (external auditory canal) were Staphylococcus auricularis, Propionibacterium acnes, Alloiococcus otitis, and Turicella otitidis. The EAC microbiota seems more diverse and individualized than previously thought. Also, ear cleaning habits seem to alter the EAC microbiome.[235]
This paper refers to the fact that specific bacterial assemblage can always be found related to the external auditory canal.

# Kociszewska D, Chan J, Thorne PR, Vlajkovic SM. Et. al have argued: The aetiology of sensorineural hearing loss (SNHL) is complex and multifactorial, arising from congenital and acquired causes. Recent evidence suggests that impaired gut health may also be a risk factor for SNHL. Inflammatory bowel disease (IBD), type 2 diabetes, diet-induced obesity (DIO), and high-fat diet (HFD) all show links to hearing loss. Previous studies have shown that a HFD can result in microangiopathy, impaired insulin signalling, and oxidative stress in the inner ear. A HFD can also induce pathological shifts in gut microbiota and affect intestinal barrier (IB) integrity, leading to a leaky gut. A leaky gut can result in chronic systemic inflammation, which may affect extraintestinal organs. Here, we postulate that changes in gut microbiota resulting from a chronic HFD and DIO may cause a systemic inflammatory response that can compromise the permeability of the blood–labyrinth barrier (BLB) in the inner ear, thus inducing cochlear inflammation and hearing deficits.[236]

235 Sjövall, Atte; Aho, Velma T.E; Hyyrynen, Taneli; Kinnari, Teemu J.; Auvinen, Petri; Silvola, Juha; Aarnisalo, Antti; Laulajainen-Hongisto, Anu: Microbiome of the Healthy External Auditory Canal, Otology & Neurotology: June 2021 - Volume 42 - Issue 5 - p e609-e614. doi: 10.1097/MAO.0000000000003031

236 Kociszewska D, Chan J, Thorne PR, Vlajkovic SM. The Link between Gut Dysbiosis Caused by a High-Fat Diet and Hearing Loss. Int J Mol Sci. 2021 Dec 7;22(24):13177. doi: 10.3390/ijms222413177. PMID: 34947974; PMCID: PMC8708400.

Alternatively, these results refer that a type of hearing loss is due to the byproducts of the dwelling bacteria (microbiota) in the colon.

## 5.5. In the nose and the Respiratory tract of humans.

+ **Narrated Abu Huraira:** The Prophet said, "If anyone of you rouses from sleep and performs the ablution, he should wash his nose by putting water in it and then blowing it out thrice, because satan has stayed in the upper part of his nose all the night."[237]

In the Arabic version it is inside his nose. It can be understood that satan's cells can be found in the nose of most research subjects. Also, one can posulate that this is one the attache and is present in the nose. Beside by existing inside the nasal cavity jinn can lead to to sleep apnea by blocking the airway passages. This is understood from the fact that the prophet (pbbh) ordered to clear the nose by water once getting up from sleep.

### Nasal microbiota and sleep apnea

# *Rawlings BA, Higgins TS, Han JK (2013)* have written: "S. pneumoniae was positively cultured in at least one site in 15% of ill subjects and 31% of well subjects (p = 0.006). H. influenzae was positively cultured in at least one site in 45% of ill subjects and 31% of well subjects (p = 0.027). M. catarrhalis was positively cultured in at least one site in 42% of ill subjects and 27% of well subjects (p = 0.018)" 238

# American Society for Microbiology (2010), The author of this paper has written: "The nose and throat are important sites of pathogen colonization, yet the microbiota of both are relatively unexplored by culture-independent approaches," says Katherine Lemon of Children's Hospital Boston, a lead author on the study that also included researchers from Harvard Medical School, Lawrence Berkeley National Laboratory and the University of California, San Francisco.

Until now most of the knowledge of bacteria living in the nose and throat has been generated using culture-based techniques and has primarily focused on identifying pathogenic bacteria. In this study, Lemon and her colleagues examined and compared the bacterial communities from the

237 Sahih al bukhari, book 59, hadith 104. http://sunnah.com/bukhari/59/104

238 Rawlings BA, Higgins TS, Han JK. Bacterial pathogens in the nasopharynx, nasal cavity, and osteomeatal complex during wellness and viral infection. Am J Rhinol Allergy **27**:39–42, 2013

noses and throats of seven healthy adults using two different culture-independent methods one of which was a 16S rRNA microarray, called the PhyloChip, which possesses 500,000 probes and can detect approximately 8,500 different genetically distinct groups of bacteria. Despite the close physical connection between the nose and throat, the researchers found distinct differences in bacterial populations. In the nose the majority of bacteria found were of the phyla Firmicutes and Actinobacteria and compared to other areas of the body that had been studied the distribution was most reminiscent of the skin. In the throat the majority of bacteria were of the phyla Firmicutes, Proteobacteria and Bacteroidetes and the distribution was more similar to that found in saliva".[239]

Hence, microbiota are found to be residing the nose and throat of a normal human. Also, that the nose and throat are colonized by these bacteria.

# Wu BG, Sulaiman I, Wang J, Shen N, Clemente JC, Li Y, Laumbach RJ, Lu SE, Udasin I, Le-Hoang O, Perez A, Alimokhtari S, Black K, Plietz M, Twumasi A, Sanders H, Malecha P, Kapoor B, Scaglione BD, Wang A, Blazoski C, Weiden MD, Rapoport DM, Harrison D, Chitkara N, Vicente E, Marin JM, Sunderram J, Ayappa I, Segal LN have measured: **Measurements and main results:** In both cohorts, we identified that: 1) severity of OSA(obstructive sleep apnea) correlated with differences in microbiome diversity and composition; 2) the nasal microbiome of subjects with severe OSA were enriched with Streptococcus, Prevotella, and Veillonella; and 3) the nasal microbiome differences were associated with inflammatory biomarkers. Network analysis identified clusters of cooccurring microbes that defined communities. Several common oral commensals (e.g., Streptococcus, Rothia, Veillonella, and Fusobacterium) correlated with apnea-hypopnea index. Three months of treatment with continuous positive airway pressure did not change the composition of the nasal microbiota.
**Conclusions:** We demonstrate that the presence of an altered microbiome in severe OSA is associated with inflammatory markers. Further experimental approaches to explore causal links are needed. 240

239 American Society for Microbiology (2010, June 21). Bacteria in the nose and throat: Most comprehensive comparative analysis
240 Wu BG, Sulaiman I, Wang J, Shen N, Clemente JC, Li Y, Laumbach RJ, Lu SE, Udasin I, Le-Hoang O, Perez A, Alimokhtari S, Black K, Plietz M, Twumasi A, Sanders H, Malecha P, Kapoor B, Scaglione BD, Wang A,

These researches refer to the fact that microbiota can be found in side the human nose and also can lead to sleep apnea by blocking the nose.

## 5.6. Jinn and satan are also found to inhabit the skin of humans:

+Hudhaifa reported: "When we attended a dinner along with the Messenger of Allah (peace and blessings on him) we did not lay our hands on the food until Allah's Messenger (peace and blessings on him) had laid his hand and commenced eating (the food). Once we went with him to a dinner when a girl came rushingly as it someone had been pursuing her. She was about to lay her hand on the food, when Allaah's Messenger (peace and blessings on him) caught her hand. Then a desert Arab came there (rushingly) as if someone had been pursuing him. He (the Prophet) caught his hand; and then Allah's Messenger (peace and blessings on him) said: satan considers that food lawful on which Allah's name is not mentioned. He had brought this girl so that the food might be made lawful for him and I caught her hand. And he had brought a desert Arab so that (the food) might be lawful for him. So I caught his hand. By Him, in Whose hand is my life, it was (satan's) hand that was in my hand along with her hand."[241]

The hand of the prophet (peace and blessings on him) caught the hand of the man whose satan's hand was in the man's hand. From this hadith, one can hypothesize that jinn's can be found constantly and consistently on the human skin. Besides, accordingly as satan is our enemy it can have a part in most of the diseases of the skin. Moreover, there are at least three other sayings that denote the presence of satan on human skin.

### + Ibn 'Umar reported Allah's Messenger (ﷺ) as saying:

When any one of you intends to eat (meal), he should eat with his right hand. and when he (intends) to drink he should drink with his right hand, for the Satan eats with his left hand and drinks with his left hand. [242]

Blazoski C, Weiden MD, Rapoport DM, Harrison D, Chitkara N, Vicente E, Marin JM, Sunderram J, Ayappa I, Segal LN. Severe Obstructive Sleep Apnea Is Associated with Alterations in the Nasal Microbiome and an Increase in Inflammation. Am J Respir Crit Care Med. 2019 Jan 1;199(1):99-109. doi: 10.1164/rccm.201801-0119OC. PMID: 29969291; PMCID: PMC6353011.

241 Sahih Muslim, The Book of Drinks book 36, Chapter 13: The etiquette of eating and drinking, and rulings thereon hadith 2017. http://sunnah.com/muslim/36/133

242 Sahih Muslim, (36) The Book of Drinks, (13) Chapter: The etiquette of eating and drinking, and rulings thereon, Hadith 2020a

This hadith refers to the fact that jinn's cells can be found on the human skin as a permenant matter. This is extracted from the fact that attache's hand can be found in the hand of the human during eating.

## Skin microbiota:

# Byrd AL, Belkaid Y, Segre JA. have stated: Functioning as the exterior interface of the human body with the environment, skin acts as a physical barrier to prevent the invasion of foreign pathogens while providing a home to the commensal microbiota. The harsh physical landscape of skin, particularly the desiccated, nutrient-poor, acidic environment, also contributes to the adversity that pathogens face when colonizing human skin. Despite this, the skin is colonized by a diverse microbiota. In this Review, we describe amplicon and shotgun metagenomic DNA sequencing studies that have been used to assess the taxonomic diversity of microorganisms that are associated with skin from the kingdom to the strain level. We discuss recent insights into skin microbial communities, including their composition in health and disease, the dynamics between species and interactions with the immune system, with a focus on Propionibacterium acnes, Staphylococcus epidermidis and Staphylococcus aureus. [243]

#Korting HC, Lukacs A, Braun-Falco O. Hautarzt. (1998) have mentioned:" The micro-flora resident on human skin shows great inter-individual and intra-individual differences. It is essentially composed of micrococci, staphylococci, aerobic and anaerobic coryneforms as well as pityrosporum species which, in accordance with the different environment in the different regions of the body, are in a steady state. With increasing age, human skin microflora undergoes qualitative changes: the streptococci, which are found in infants, disappear and coryneform bacteria occur, which are mainly responsible for odor production. Anaerobic propionibacteria are more numerous in juveniles and young adults, a fact that may be explained by increased sebum production".[244]

# Byrd, A., Belkaid, Y. & Segre, J. have finalized:

243 Byrd AL, Belkaid Y, Segre JA. The human skin microbiome. Nat Rev Microbiol. 2018 Mar;16(3):143-155. doi: 10.1038/nrmicro.2017.157. Epub 2018 Jan 15. PMID: 29332945.

244 Korting HC, Lukacs A, Braun-Falco O. Mikrobielle Flora und Geruch der gesunden menschlichenHaut. Hautarzt 1988; 39:564–568.

key Points

- Skin microorganisms have adapted to utilize the sparse nutrients available on the skin
- Many cutaneous microorganisms can produce molecules that inhibit the colonization of other microorganisms or alter their behaviour
- The skin microbiota of a healthy adult remains stable over time, despite environmental perturbations
- Skin microorganisms have important roles in educating the innate and adaptive arms of the cutaneous immune system
- Some skin diseases are associated with an altered microbial state; reversion of this dysbiosis may help prevent and/or treat the disease [245]

Therefore, there are bacterial species certain for each individual that are living as skin microbiota of that human. In addition, the skin microbiota has a role in health and diseases of the skin.

# Salem I, Ramser A, Isham N, Ghannoum MA have realized: Basic science research and clinical studies have demonstrated the gut microbiome's contribution to host homeostasis, allostasis, and the pathogenesis of disease. Through complex immune mechanisms, the influence of the gut microbiome extends to involve distant organ systems including the skin. With intentional modulation of the microbiome, probiotics, prebiotics, and synbiotics have proven beneficial in the prevention and/or treatment of inflammatory skin diseases including acne vulgaris, AD, and psoriasis. In this up-and-coming field, future research should improve our understanding of the complex mechanisms underlying the gut-skin axis, investigate the therapeutic potential of long-term modulation of the gut microbiome, and potentially expand therapeutic manipulation to include commensal gut fungi and viruses in order to fully harness the gut microbiome's influence in the treatment of skin disease.[246]

245 Byrd, A., Belkaid, Y. & Segre, J. The human skin microbiome. *Nat Rev Microbiol* **16,** 143–155 (2018). https://doi.org/10.1038/nrmicro.2017.157

**246** Salem I, Ramser A, Isham N, Ghannoum MA. The Gut Microbiome as a Major Regulator of the Gut-Skin Axis. Front Microbiol. 2018 Jul 10;9:1459. doi: 10.3389/fmicb.2018.01459. PMID: 30042740; PMCID: PMC6048199.

Atopic dermatitis (eczema) is a condition that makes your skin red and itchy.[247]

# De Pessemier B, Grine L, Debaere M, Maes A, Paetzold B, Callewaert C. have diseerted: The skin diseases as discussed in this manuscript result from a complex interaction between genetic susceptibility, lifestyle, and the immune system. More specifically, the latter is in constant orchestration with the nervous and endocrine systems. These interactions allow microbiota to play a key role, especially in organs such as the skin and gut that are richly perfused with immunoregulators and microbiota. Additionally, observations such as the prevention of AD through probiotics and the increased prevalence of intestinal comorbidities in chronic skin diseases suggest that skin diseases can be linked to the gastrointestinal system. Pre- and probiotics aimed at the intestinal microbiome may be used for targeting skin health. Probiotic-fed mice with Lactobacillus reuteri demonstrated a shinier and thicker fur mediated through IL-10 and, upon the addition of purified Foxp3+ T cells, also improved the integumentary system. In a placebo controlled human study, healthy volunteers obtained a lower transepidermal water loss and lower skin sensitivity when consuming probiotics compared to the placebo group. Interestingly, consumption of probiotics or live bacteria that are beneficial for the gastrointestinal system has potential to prevent and manage various skin diseases, such as acne vulgaris, atopic dermatitis, and psoriasis. Similar beneficial health effects have been determined by consuming prebiotics and synbiotics. However, specific diets such as caloric restriction and low-fat diets have also been associated with improved intestinal epithelial barrier or with cutaneous improvements, including acne vulgaris, AD, psoriasis, wound healing, skin cancer, and even skin aging. [248]

# Ellis SR, Nguyen M, Vaughn AR, Notay M, Burney WA, Sandhu S, Sivamani RK. have postulated: if it is hypothesized that changes to the gut microbiome can lead to cutaneous manifestations, the question becomes, 'how?'. The "brain-gut-skin axis", was initially proposed by John H.

**247** https://www.mayoclinic.org/diseases-conditions/atopic-dermatitis-eczema/symptoms-causes/syc-20353273#:~:text=Atopic%20dermatitis%20(eczema)%20is%20a,been%20found%20for%20atopic%20dermatitis.

248 De Pessemier B, Grine L, Debaere M, Maes A, Paetzold B, Callewaert C. Gut-Skin Axis: Current Knowledge of the Interrelationship between Microbial Dysbiosis and Skin Conditions. Microorganisms. 2021 Feb 11;9(2):353. doi: 10.3390/microorganisms9020353. PMID: 33670115; PMCID: PMC7916842.

Stokes and Donald M. Pillsbury in 1930. They hypothesized that negative emotional states such as depression and anxiety alter the gastrointestinal function and lead to changes in normal gut flora, increased intestinal permeability, and systemic inflammation……..…Although it is apparent that there is a link between the gut microbiota and dermatological disease, the exact mechanism is poorly understood. Current evidence suggests that it is likely due to a combination of both neurologic and immunologic responses to environmental shifts, resulting in chronic systemic inflammation that can ultimately affect the skin. Further studies need to go beyond descriptive microbiome studies, to include functional characteristics such as transcriptomics, lipidomics, and secondary metabolite measures, as this will allow us to better understand the method of communication between the gut and the skin in order to design therapies that effectively target multiple aspects of disease pathogenesis. [249]

These research and reviews clearly indicate a connection between, gut and skin microbiome and certain skin diseases.

## 5.7. They can be detected inside the gastrointestinal tract and digest foods.

### 5.7.1. Inside the mouth:

+The son of Abu Said al-Khudri reported on the authority of his father that Allah's Messenger (ﷺ) said: "When one of you yawns, he should try to restrain it with cue help of his hand since it is the Satan that enters therein."[250]

Jinn can obviously enter the mouth through true interpretation of this prophetic saying. This means that most of those peoples' mouths will be inhabited by jinn. Also, those inhabiting the mouth can cause diseases there.

### The mouth microbiota:

# Jørn A. Aas et al (2005) say: "The oral cavity is comprised of many surfaces, each coated with a plethora of bacteria, the proverbial bacterial biofilm. Some of these bacteria have been implicated in oral diseases such

249 Ellis SR, Nguyen M, Vaughn AR, Notay M, Burney WA, Sandhu S, Sivamani RK. The Skin and Gut Microbiome and Its Role in Common Dermatologic Conditions. Microorganisms. 2019 Nov 11;7(11):550. doi: 10.3390/microorganisms7110550. PMID: 31717915; PMCID: PMC6920876.

250 Sahih muslim, book 55, hadith 75. http://sunnah.com/muslim/55/75

as caries and periodontitis, which are among the most common bacterial infections in humans. For example, it has been estimated that at least 35% of dentate U.S. adults aged 30 to 90 years have periodontitis. In addition, specific oral bacterial species have been implicated in several systemic diseases, such as bacterial endocarditis, aspiration pneumonia, osteomyelitis in children, preterm low birth weight, and cardiovascular disease. Surprisingly, little is known about the microflora of the healthy oral cavity."[251]

# Deo PN, Deshmukh R. have said: The oral cavity has the second largest and diverse microbiota after the gut harboring over 700 species of bacteria. It nurtures numerous microorganisms which include bacteria, fungi, viruses and protozoa. The mouth with its various niches is an exceptionally complex habitat where microbes colonize the hard surfaces of the teeth and the soft tissues of the oral mucosa. In addition to being the initiation point of digestion, the oral microbiome is crucial in maintaining oral as well as systemic health. Because of the ease of sample collection, it has become the most well-studied microbiome till date. Previously, studying the microbiome was limited to the conventional culture-dependent techniques, but the abundant microflora present in the oral cavity could not be cultured. Hence, studying the microbiome was difficult. The emergence of new genomic technologies including next-generation sequencing and bioinformatics has revealed the complexities of the oral microbiome. It has provided a powerful means of studying the microbiome.[252]

This means that the oral cavity contains many species of bacteria that are living as normal microbiota.

251 Jørn A. Aas, Bruce J. Paster, Lauren N. Stokes, Ingar Olsen, and Floyd E. Dewhirst Defining the Normal Bacterial Flora of the Oral Cavity. J Clin Microbiol. Nov 2005; 43(11): 5721–5732.
doi: 10.1128/JCM.43.11.5721-5732.2005

252 Deo PN, Deshmukh R. Oral microbiome: Unveiling the fundamentals. J Oral Maxillofac Pathol. 2019 Jan-Apr;23(1):122-128. doi: 10.4103/jomfp.JOMFP_304_18. PMID: 31110428; PMCID: PMC6503789.

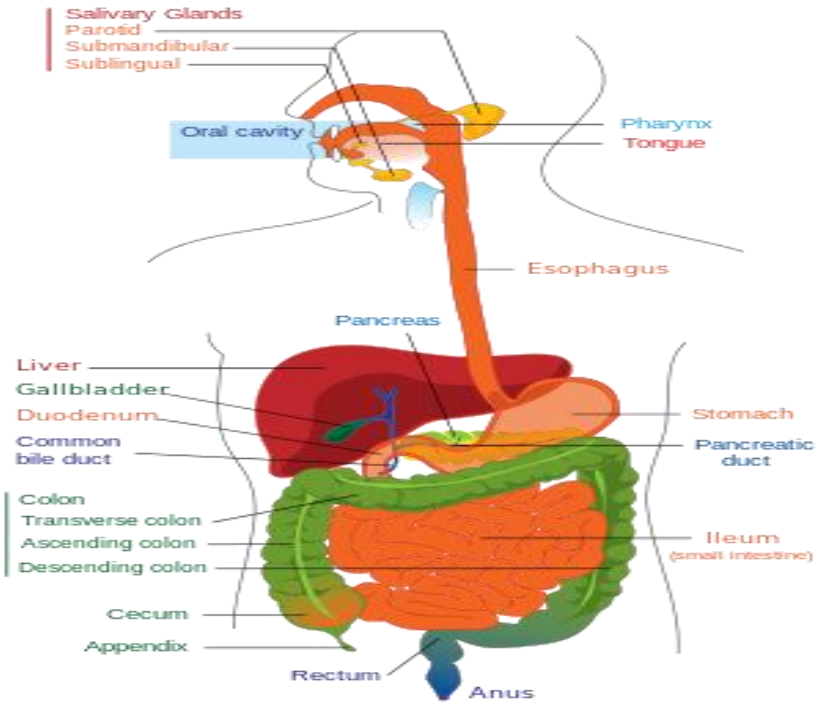



**Image 14. The Gastrointestinal tract of humans. Image taken from https://en.wikipedia.org/wiki/Human_gastrointestinal_tract**

### 5.7.2 in the other parts of the Human GIT and digesting food:

+ Hudhaifa reported: "When we attended a dinner along with the Messenger of Allah (peace and blessings on him) we did not lay our hands on the food until Allah's Messenger (peace and blessings on him) had laid his hand and commenced eating (the food). Once we went with him to a dinner when a girl came rushingly as it someone had been pursuing her. She was about to lay her hand on the food, when Allaah's Messenger (peace and blessings on him) caught her hand. Then a desert Arab came there (rushingly) as if someone had been pursuing him. He (the Prophet) caught his hand; and then Allah's Messenger (peace and blessings on him) said: satan considers that food lawful on which Allah's name is not mentioned. He had brought this girl so that the food might be made lawful for him and I caught her hand. And he had brought a desert Arab so that (the food) might be lawful for him. So I caught his hand. By Him, in Whose hand is my life, it was (satan's) hand that was in my hand along with her hand."[253]

253 Sahih Muslim, book 36, hadith 133. http://sunnah.com/muslim/36/133

+ Jabir reported: I heard Allaah's Prophet (peace and blessings on him) saying: "The Satan is present with any one of you in everything he does; he is present even when he eats food; so if any one of you drops a mouthful he should remove away anything filthy on it and eat it and not leave for the devil; and when he finishes (food) he should lick his fingers, for he does not know in what portion of his food the blessing lies."[254]

+ Narrated Umayyah ibn Makhshi: Umayyah was sitting and a man was eating. He did not mention Allah's name until there remained the last morsel. When he raised it to his mouth, he said: In the name of Allah at the beginning and at the end of it. The Prophet (ﷺ) laughed and said: The devil kept eating along with him, but when he mentioned Allah's name, he vomited what was in his belly.
Abu Dawud: Jabir bin Subh is grandfather of Sulaiman bin Harb from his mother's side. [255]
The information that can be extracted from these three sayings. Firstly, the food which the name of Allah is not mentioned on is liable to be eaten by satan. Secondly, since satan cannot be seen by human eyes and can reform one can assume the satan which is eating the food can be swallowed with the food and the drink, so they can be found in the Gastrointestinal tract of humans. Thirdy, that devils can digest food (eat it). Lastly, that jinn are found iside the human GIT.

## GUT Microbiota:

# René J. Dubos (1940) cited the following: “Wortmann was probably the first physiologist to describe in biochemical terms the mechanism by which living cells can adapt themselves to the utilization of certain foodstuffs. He observed that the cells of an unidentified bacterial species produced amylase when grown in media containing starch, whereas this enzyme failed to appear when the same culture was grown in media which did not contain this polysaccharide”. [256]

# Nibedita Kar, Koushik Ghos. (2008) have found:” Isolation and enumeration of heterotrophic bacteria from the gastrointestinal tracts of rohu, Labeo rohita and murrel, Channa punctatus have been carried out to

254Sahih Muslim, book 36, hadith 177. http://sunnah.com/muslim/36/177
255 Sunan abi dawd, book of foods (28), chapter (16): saying bismillah on food, hadith no. 3768
256 René J. Dubos, THE ADAPTIVE PRODUCTION OF ENZYMES BY BACTERIA, Bacteriol Rev. 1940 March; 4(1): 1–16.

find out their importance in the nutrition of the host fish. Amylolytic, proteolytic and cellulolytic bacteria were detected in the fish gut. Among specific enzyme producing bacteria, proteolytic and cellulolytic bacteria were present at higher number within the gut of murrel and rohu, respectively".[257]

# Hansen NW, Sams A. have reviewed: The gut microbiota provides nutrients for the host by digesting food structures otherwise indigestible by human enzymes, thereby simultaneously harvesting energy and delivering nutrients and metabolites for the nutritional and biological benefit of the host. Microbiota-derived nutrients, metabolites, and antigens promote the development and function of the host immune system both directly by activating cells of the adaptive and innate immune system and indirectly by sustaining release of monosaccharides, stimulating intestinal receptors and secreting gut hormones. Multiple indirect microbiota-dependent biological responses contribute to glucose homeostasis, which prevents hyperglycemia-induced inflammatory conditions. The composition and function of the gut microbiota vary between individuals and whereas dietary habits influence the gut microbiota, the gut microbiota influences both the nutritional and biological homeostasis of the host. A healthy gut microbiota requires the presence of beneficial microbiotic species as well as vital food structures to ensure appropriate feeding of the microbiota.[258]

These three studies prove that bacteria can digest food through the use of different digestive enzymes. Plus, there are at least thousands of research and reviews on the gut microbiota that we will shed the light on few of them later in this paper.

### 5.7.3 jins and the uncovered foods and epidemics:

few other sayings confirm that jinn can enter uncovered food stay there and cause epidemics.

+ Jabir reported Allah's Messenger (ﷺ) as saying: "Cover vessels, waterskins, close the doors and extinguish the lamps, for the Satan does not loosen the waterskin, does not open the door and does not uncover the

257 Nibedita Kar, Koushik Ghos. Enzyme Producing Bacteria in the Gastrointestinal Tracts of Labeo rohita (Hamilton) and Channa punctatus (Bloch). Turkish Journal of Fisheries and Aquatic Sciences 8: 115-120 (2008)
258 Hansen NW, Sams A. The Microbiotic Highway to Health-New Perspective on Food Structure, Gut Microbiota, and Host Inflammation. Nutrients. 2018 Oct 30;10(11):1590. doi: 10.3390/nu10111590. PMID: 30380701; PMCID: PMC6267475.

vessels. And if one amongst you fails to find (something) to cover it well, he should cover it by placing (a piece of) wood across it." [259] Qutaiba did not mention the closing of the doors in the hadith transmitted by him.

+ **Jabir bin 'Abdullah reported Allah's Messenger (ﷺ) as saying:** "Cover the vessels and tie the water-skin, for there is a night in a year when pestilence (epidemic) descends, and it does not pass an uncovered vessel or an untied water-skin but some of that pestilence descending into it."[260]

Concluding from those two sayings, it is clear that epidemic is one type of jinn's harm on human body. However, epidemics are from jinn, but not all jinn cause epidemics. Also, that food transmission is another form of epidemic spread. Finally, if they can cause epidemics through food, they absolutely can be found in the stomach.

## Stomach microbiome:

# GRAHAM ET AL (1991) have written:" We enrolled 490 healthy asymptomatic volunteers residing in the Houston metropolitan area. In 441 of the enrollees, the results of both the ELISA and the UBT were concordant; in 44 the results of ELISA were positive and the UBT results negative. Five individuals had a positive UBT and a negative ELISA result and were excluded. The discordant findings were randomly spread, and inclusion or exclusion of those with discordant findings would not change any of the results obtained. H. pylori infection was present in 253 subjects or 52% of the population studied. The subjects ranged in age from 15 to 80 years. The black population represented 35% of the total population in the geographic area. To compare the frequency of H. pylori infection between races, a similar number of persons from each of the two racial groups were enrolled. The male-female ratio was similar".[261]

# Naoko Satoh-Takayama, Tamotsu Kato, Yasutaka Motomura, Tomoko Kageyama, Naoko Taguchi-Atarashi, Ryo Kinoshita-Daitoku, Eisuke Kuroda, James P. Di Santo, Hitomi Mimuro, Kazuyo Moro, Hiroshi Ohno

259 Sahih muslim, book 36, hadith 120. http://sunnah.com/muslim/36/120
260Sahih muslim, book 36, hadith 129. http://sunnah.com/muslim/36/129
261 Graham DY, Malaty HM, Evans DG, Evans DJ Jr, Klein PD, Adam E.,Epidemiology of Helicobacter PyIori in an Asymptomatic Population in the United States: Effect of Age, Race, and Socioeconomic Status. GASTROENTEROLOGY Vol. lOO, No.6, June 1991

have said: The stomach has been thought to host few commensal bacteria because of the existence of barriers, such as gastric acid. However, recent culture-independent, sequencing-based microbial analysis has shown that the stomach also harbors a wide diversity of microbiota. Although the stomach immune system, especially innate lymphoid cells (ILCs), has not been well elucidated, recent studies have shown that group 2 ILCs (ILC2s) are the dominant subtype in the stomach of both humans and mice. Stomach ILC2s are unique in that their existence is dependent on stomach microbiota, in sharp contrast to the lack of an impact of commensal microbiota on ILC2s in other tissues. The microbiota dependency of stomach ILC2s is partly explained by their responsiveness to interleukin (IL)-7. Stomach ILC2s express significantly higher IL-7 receptor protein levels on their surface and proliferate more in response to IL-7 stimulation in vitro than small intestinal ILC2s. Consistently, the stomach expresses much higher IL-7 protein levels than the small intestine. IL-5 secreted from stomach ILC2s promotes immunoglobulin (Ig) A production by plasma B cells. In a murine model, stomach ILC2s are important in containing *Helicobacter pylori* infection, especially in the early phase of infection, by promoting IgA production.[262]

A type of bacteria called H. Pylori is found to dwell the stomach of most people. Few, other research and reviews are present to prove that not all infection can be epidemics. Moreover, epidemic sources can be food.

Also, this topic of gut microbiota is extensively mentioned in other chapters. There are at least 200 microbial diseases that cause epidemics which are spread through food transmission.

## 5.8. They can be detected in the genitourinary tract.

+Allah (the glorified) says: And excite any of them whom thou canst with thy voice, and urge thy horse and foot against them, and be a partner in

[262] Naoko Satoh-Takayama, Tamotsu Kato, Yasutaka Motomura, Tomoko Kageyama, Naoko Taguchi-Atarashi, Ryo Kinoshita-Daitoku, Eisuke Kuroda, James P. Di Santo, Hitomi Mimuro, Kazuyo Moro, Hiroshi Ohno, Bacteria-Induced Group 2 Innate Lymphoid Cells in the Stomach Provide Immune Protection through Induction of IgA, Immunity, Volume 52, Issue 4, 2020, Pages 635-649.e4, ISSN 1074-7613, https://doi.org/10.1016/j.immuni.2020.03.002. (https://www.sciencedirect.com/science/article/pii/S107476132030090X)

their wealth and children, and promise them. Satan promiseth them only to deceive.[263]

One can inquire how satan can be a partner in the children of humans?

+The explanation is through understanding this saying: Narrated Ibn 'Abbas: Allah's Apostle said, "If anyone of you, when intending to have a sexual relation (sleep) with his wife, says: Bismillah, Allahumma jannibna ashshaitan, wa Jannib ash-shaitana ma razaqtana, satan would never harm that child, should it be ordained that they will have one (Because of that sleep). "[264]

The meaning of this hadith: -Bismillah, = means in the name of ALLAH

-Allahumma jannibna ashshaitan, = O ALLAH keep satan away from us

-wa Jannib ash-shaitana ma razaqtana= and keep away satan from what you have given us(child). (from the moment of being a gamete as we are taught to say this supplication during intercourse. It is well known that at least it takes six months for the child to be born. This leads to the clue that satan can harm the embryo inside the uterus and planceta. This will be confirmed in the next few sections.

+This verse and hadith were explained by the follower (tabbii) mujahid (may Allah have mercy on): that whenever a person intends to perform sexual relationship with his wife if he does not mention the following supplication, then satan will have relationship with his wife also. (which means that these creatures can be found in genitourinary system).[265]

This saying of mujahid is the apparent interpretation of this hadith. This leads to the fact that satan is dwelling in the geneitourinary tract of the humans and has the ability to cause diseases within and also in the embryos.

### 5.8.1. Devil and excess uterine bleeding:

**+ Asma' daughter of 'Unais said:** I said: Messenger of Allah, Fatimah daughter of Abu Hubaish had a flow of blood for a certain period and did not pray. The Messenger of Allah (ﷺ) said: Glory be to Allah! This comes from the devil. She should sit in a tub, and when she sees yellowness of the top of the water, she would take a bath once for the Zuhr and 'Asr prayer,

263 Al Quran Al-Isra 17: Verse 64

264 Sahih Al Bukhari, Book 97, Hadith 25. http://sunnah.com/bukhari/97/25

265 The book fath albari fi sharh sahih albukhari. Ibn hajar alaasqlani. (9/137) (the Arabic version) http://www.almeshkat.net/vb/showthread.php?t=84408

and take another bath for the Maghrib and 'Isha prayers, and take a bath once for the fajr prayer, and in between times she would perform ablution.
Abu Dawud said: Mujahid reported on the authority of Ibn 'Abbas: When bathing became hard for her, he commanded her to combine the two prayers.
Abu Dawud said: Ibrahim reported it from Ibn 'Abbas. This is also the view of Ibrahim al-Nakha'i and 'Abd Allah b. Shaddad.[266]
In islam the menses are a reason for the cessation of prayers until it ends. So, the devil is present inside the uterus of that woman. As a result, the bodily cells, the horns and their animal cells of satan can be found inside the uterus. Moreover, From this hadith one can postulate that they (jinn) can cause excess uterine bleeding. This means that jinn can be detected in the Genito-Urinary tract of mankind and cause disease for the gamete.

+ Allah the most high says: Wherein both will be Qâsirât-ut-Tarf [chaste females (wives) restraining their glances, desiring none except their husbands], with whom no man or jinni has had tamth[1] before them.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

**(note**: Tamth means: Opening their hymens with sexual intercourse.)

Allah the most high says: Therein are those of modest gaze, whom neither man nor jinni will have touched before them.

— Pickthall [267]

This was explained unanimously by interpreters of quran as these females have never had an intercourse with humans nor jinns [268]

This leads to the result that in this world the jinns can dwell inside women's womb.

## The presence of genital microbiome and uterine microbiota and its role in menorrhagia and infertility

# Mehta SD, Zhao D, Green SJ, Agingu W, Otieno F, Bhaumik R, Bhaumik D, Bailey RC. have concluded: Baseline penile microbiota accurately predicted BV (bacterial vaginosis) incidence in women who did not have BV at baseline, with more than half of incident infections observed at 6- to 12- months after penile microbiome assessment. These results suggest

266 Sunan Abi Dawud, (1) Purification (Kitab Al-Taharah), (114) Chapter: Those Who State: She Should Combine Between Two Prayers, And Perform One Ghusl Before Both of Them, hadith 296
267 Quran, Chapter 55 (Al Rahman), verse 56
268 Tafsir al tabari, part 23, page 64

interventions to manipulate the penile microbiome may reduce BV incidence in sex partners, and that potential treatment (antibiotic or live biotherapeutic) will need to be effective in reducing or altering bacteria at both the glans/coronal sulcus and urethral sites (as represented by the meatus). The temporal association clarifies that concordance of penile microbiome with the vaginal microbiome of sex partners is not merely reflecting the vaginal microbiome, but can contribute to it. [269]

BV= bacterial vaginosis. This research indicates that the penile microbiome can determine vaginal infection in the women partner. This means that there is microbiota related the penis.

# Chen Weijun, Wei Kehong, He Xia, Wei Jing, Yang Lijuan, Li Lin, Chen Tingtao, Tan Buzhen have concluded: In conclusion, CE (chronic endometritis) may be a key factor for the negative outcome after IVF, of which the uterine microbiota plays a pivotal role, and the microbial diversity in uterine may serve as a biomarker to forecast the success of IVF outcome.[270]

# Simone Filardo, Marisa Di Pietro, Giulia Tranquilli, and Rosa Sessa. 2019 say: "In conclusion, our findings could have important clinical implications since the biofilm associated with *Candida* or *Gardnerella* genital infections may act as a chlamydial reservoir contributing to the transmission of *C. trachomatis* in the population, alongside its dissemination in the female upper genital tract. The survival of *C. trachomatis* within the biofilm may also help to explain the increased risk of PID in *C. trachomatis*-infected women who also use IUDs, where the biofilm formation is more likely to happen." [271]

A plethora of research is found on STD, anyone can search the web for them.

269 Mehta SD, Zhao D, Green SJ, Agingu W, Otieno F, Bhaumik R, Bhaumik D, Bailey RC. The Microbiome Composition of a Man's Penis Predicts Incident Bacterial Vaginosis in His Female Sex Partner With High Accuracy. Front Cell Infect Microbiol. 2020 Aug 4;10:433. doi: 10.3389/fcimb.2020.00433. PMID: 32903746; PMCID: PMC7438843.

270 Chen Weijun, Wei Kehong, He Xia, Wei Jing, Yang Lijuan, Li Lin, Chen Tingtao, Tan Buzhen, dentification of Uterine Microbiota in Infertile Women Receiving In vitro Fertilization With and Without Chronic Endometritis, Frontiers in Cell and Developmental Biology, 9, 2021, https://www.frontiersin.org/article/10.3389/fcell.2021.693267, DOI=10.3389/fcell.2021.693267, ISSN=2296-634X

**271** Simone Filardo, Marisa Di Pietro, Giulia Tranquilli, and Rosa Sessa. Biofilm in Genital Ecosystem: A Potential Risk Factor for *Chlamydia trachomatis* Infection. Canadian Journal of Infectious Diseases and Medical Microbiology / 2019, Volume 2019 |Article ID 1672109 | 6 pages | https://doi.org/10.1155/2019/1672109

# Pelzer ES, Willner D, Buttini M, Huygens F have researched: This study aimed to characterise the microbial community within the endometrial cavity and endocervix in women with menorrhagia or dysmenorrhea. ……..Pyrosequencing revealed that the endocervix and endometrium share a minor microbial community, but that each site harbours a separate and distinct microbial population (p = 0.024). This was also the case for women with menorrhagia and dysmenorrhea (p = 0.017). Lactobacillus spp. were the most abundant microbial taxa present in 50% of the cohorts, and across all endocervical groups. Members of the genera Prevotella, Fusobacterium and Jonquetella were the most abundant taxa identified in samples collected from nulliparous women. It can be concluded that the female upper genital tract is not sterile. Microbial community profiling revealed differences in the endometrial microbial community profiles for: (1) the endocervix compared to the endometrium, and (2), women with menorrhagia versus dysmenorrhea. The distinct microbial community profiles in these women may offer insight into the pathology and clinical management of dysfunctional menstrual bleeding. [272]

Hence, we know that there are dwelling microbiotas in the uterus. These are responsible for diseases and health.

# Happel AU, Varsani A, Balle C, Passmore JA, Jaspan H. have found: Besides bacteria, fungi, protists and archaea, the vaginal ecosystem also contains a range of prokaryote- and eukaryote-infecting viruses, which are collectively referred to as the “virome”. Despite its well-described role in the gut and other environmental niches, the vaginal virome remains understudied. With a focus on sexual and reproductive health, we summarize the currently known components of the vaginal virome, its relationship with other constituents of the vaginal microbiota and its association with adverse health outcomes. While a range of eukaryote-infecting viruses has been described to be present in the female genital tract (FGT), few prokaryote-infecting viruses have been described. Literature suggests that various vaginal viruses interact with vaginal bacterial microbiota and host immunity and that any imbalance thereof may

272 Pelzer ES, Willner D, Buttini M, Huygens F. A role for the endometrial microbiome in dysfunctional menstrual bleeding. Antonie Van Leeuwenhoek. 2018 Jun;111(6):933-943. doi: 10.1007/s10482-017-0992-6. Epub 2018 Jan 3. PMID: 29299770.

contribute to the risk of adverse reproductive health outcomes, including infertility and adverse birth outcomes[273]

### 5.8.2. Infertility and miscarriages and the link to devil

+ Narrated Ibn `Umar: That he heard the Prophet (ﷺ) delivering a sermon on the pulpit saying, "Kill snakes and kill Dhu-at- Tufyatain (i.e. a snake with two white lines on its back) and Al-Abtar (i.e. a snake with short or mutilated tail) for they destroy the sight of one's eyes and bring about abortion." (`Abdullah bin `Umar further added): Once while I was chasing a snake in order, to kill it, Abu Lubaba called me saying: "Don't kill it," I said. "Allah's Messenger (ﷺ) ordered us to kill snakes." He said, "But later on he prohibited the killing of snakes living in the houses." (Az-Zuhri said. "Such snakes are called Al-Awamir.") [274]

We have previously discussed that snakes and scorpions contain devils that horns. This means that devils and their horns are associated with abortion.

#### Infertility and miscarriages and the uterine microbiota

# Moreno I, Simon C. have researched: From the clinical point of view, the identification of endometrial dysbiosis as a new cause of infertility opens a new microbiological field in the evaluation of endometrial factor, highlighting the relevance of assessing the uterine microbiota in infertile patients to restore a favorable endometrial flora in those patients with altered uterine microbiota to improve and personalize the clinical care of infertile patients. [275]

# Bardos, Jonah et al. have found: Based on both in vitro mouse and gut studies there are a likely four possible ways in which local microbiome can affect the clinical sequalae of pregnancy. It is possible that the microbiome cause alterations in regional signaling pathways. For example, as mentioned before, alterated microbiome can cause an abnormal inflammatory response through the uterine toll like receptors. When these

273 Happel AU, Varsani A, Balle C, Passmore JA, Jaspan H. The Vaginal Virome-Balancing Female Genital Tract Bacteriome, Mucosal Immunity, and Sexual and Reproductive Health Outcomes? Viruses. 2020 Jul 30;12(8):832. doi: 10.3390/v12080832. PMID: 32751611; PMCID: PMC7472209.

274 Sahih Al Bukhari, (59) Book: Beginning of creation, (14) Chapter: The Statement of Allah Taa'la: "... And the moving creatures of all kinds that He has scattered therein...", Hadith 3297 and 3298

275 Moreno I, Simon C. Relevance of assessing the uterine microbiota in infertility. Fertil Steril. 2018 Aug;110(3):337-343. doi: 10.1016/j.fertnstert.2018.04.041. PMID: 30098680.

receptors are activated, they can alter the cytokine milieu swaying the local response to a pro inflammatory and anti-tolerance immune cell response. A second method as previously mentioned can be through the alteration of the endometrial epithelial barrier integrity. Certain pathogens cause a localized decrease in matrix degradation proteins which may affect placentation. A third possible method is that the local microbiome has a competitive advantage, as it has adapted to be the best nutrient scavenger in that area and can usually starve out possible invading species in a process called competitive exclusion. Lastly, microbes can secrete metabolites, such as short chain fatty acids that suppress growth of certain species. Taken together, the natural microbiome can have an impressive effect on the local interactions between the embryo and endometrium with implications on implantation, placentation and embryonic growth, ultimately affecting pregnancy and pregnancy outcomes. [276]

# Song, S.D., Acharya, K., Zhu, J.E., Deveney, C., Walther-Antonio, M., Tetel, M., & Chia, N. have said: IMPORTANCE The vaginal microbiome is a critical component of women's sexual and reproductive health, with variations in microbial composition, particularly the loss of Lactobacillus species, being implicated in gynecologic and obstetric diseases. [277]

We have previously discussed that snakes and scorpions contain microbiotas that contain within viruses. This means that microbiotas and viromes are associated with abortion. These researchers have found that uterine microbiota have a critical role in fertility, miscarriages and infertility of humans.

### 5.8.3. Satan Sharing children and wealth of humans:

+ Allah the greastest and the highest has said: And befool them gradually those whom you can among them with your voice (i.e. songs, music, and any other call for Allâh's disobedience), make assaults on them with your cavalry and your infantry, share with them wealth and children (by tempting them to earn money by illegal ways - usury, or by committing

276 Bardos, Jonah et al. "Immunological Role of the Maternal Uterine Microbiome in Pregnancy: Pregnancies Pathologies and Alterated Microbiota." Frontiers in immunology vol. 10 2823. 8 Jan. 2020, doi:10.3389/fimmu.2019.02823

277 Song, S.D., Acharya, K., Zhu, J.E., Deveney, C., Walther-Antonio, M., Tetel, M., & Chia, N. (2020). Daily Vaginal Microbiota Fluctuations Associated with Natural Hormonal Cycle, Contraceptives, Diet, and Exercise. mSphere, 5.

illegal sexual intercourse), and make promises to them." But Satan promises them nothing but deceit.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan [278]

One can read within the lines of the afromentioned verse, that nearly the same structure of satan can be found in the sibling of that man. Also, in Arabic children means the wife or sexual partner. Which means that the sexual partner of that man can have same satan. This can be guessed from the fact that if one satan shares the few people then his cells amongst those people must be at least close to each other. Also, the wealth that is mentioned can be the servants living with him. This leads to the fact that people living under the same roof will have cells of jinns in their body which are closely related.

## Gut Microbiota among spouses and siblings of mankind:

# Hedin CR et al have written: Siblings of patients with Crohn's disease (CD) have elevated risk of developing CD and display aspects of disease phenotype, including faecal dysbiosis. In our recent article we have used 16S rRNA gene targeted high-throughput sequencing to comprehensively characterize the mucosal microbiota in healthy siblings of CD patients, and determine the influence of genotypic and phenotypic factors on the gut microbiota (dysbiosis). We have demonstrated that the core microbiota of both patients with CD and healthy siblings is significantly less diverse than controls. Faecalibacterium prausnitzii contributed most to core metacommunity dissimilarity between both patients and controls and between siblings and controls. Phenotype/genotype markers of CD risk significantly influenced microbiota variation between and within groups, of which genotype had the largest effect. Individuals with elevated CD-risk display mucosal dysbiosis characterized by reduced diversity of core microbiota and lower abundance of F. prausnitzii. The presence of this dysbiosis in healthy people at-risk of CD implicates microbiological processes in CD pathogenesis.[279]

# Dill-McFarland, K.A., Tang, ZZ., Kemis, J.H. *et al.* have found: Social relationships shape human health and mortality via behavioral,

278 Quran, Chapter 17 (Al Israa), verse 64

279 Hedin CR, van der Gast CJ, Stagg AJ, Lindsay JO, Whelan K. The gut microbiota of siblings offers insights into microbial pathogenesis of inflammatory bowel disease. Gut Microbes. 2017 Jul 4;8(4):359-365. doi: 10.1080/19490976.2017.1284733. Epub 2017 Jan 23.

psychosocial, and physiological mechanisms, including inflammatory and immune responses. Though not tested in human studies, recent primate studies indicate that the gut microbiome may also be a biological mechanism linking relationships to health. Integrating microbiota data into the 60-year-old Wisconsin Longitudinal Study, we found that socialness with family and friends is associated with differences in the human fecal microbiota. Analysis of spouse (N = 94) and sibling pairs (N = 83) further revealed that spouses have more similar microbiota and more bacterial taxa in common than siblings, with no observed differences between sibling and unrelated pairs. These differences held even after accounting for dietary factors. The differences between unrelated individuals and married couples was driven entirely by couples who reported close relationships; there were no differences in similarity between couples reporting somewhat close relationships and unrelated individuals. Moreover, married individuals harbor microbial communities of greater diversity and richness relative to those living alone, with the greatest diversity among couples reporting close relationships, which is notable given decades of research documenting the health benefits of marriage. These results suggest that human interactions, especially sustained, close marital relationships, influence the gut microbiota.[280]

# Tavalire, Hannah F., Christie, Diana M., Leve, Leslie D., Ting, Nelson , Cresko, William A. Bohannan, Brendan J. M. have postulated: The composition of the human gut microbiome is highly variable, and this variation has been repeatedly tied to variation in human health. However, the sources of microbial variation remain unclear, especially early in life. It is particularly important to understand sources of early life variation in the microbiome because the state of the microbiome in childhood can influence lifelong health. Here, we compared the gut microbiomes of children adopted in infancy to those of genetically unrelated children in the same household and genetically related children raised in other households. We observed that a shared home environment was the strongest predictor of overall microbiome similarity. ……

280 Dill-McFarland, K.A., Tang, ZZ., Kemis, J.H. *et al.* Close social relationships correlate with human gut microbiota composition. *Sci Rep* **9,** 703 (2019). https://doi.org/10.1038/s41598-018-37298-9

IMPORTANCE Our results demonstrate that the early life home environment can significantly alter the gut microbiome in childhood, potentially altering health outcomes or risk for adverse health outcomes. A better understanding of the drivers of gut microbiome variation during childhood could lead to more effective intervention strategies for overall health starting in early life.[281]

Here, one can postulate from these research and reviews that the gut microbiota of a man is same among his wife and siblings. Moreover, that sharing a house will yield the same microbiota.

## 5.9. Jinn in lavatories:

Moreover, the jinn live in the lavatories.

+ Narrated Zayd ibn Arqam: The Messenger of Allah (ﷺ) said: These privies are frequented by the jinns and devils. So, when anyone amongst you goes there, he should say: "I seek refuge in Allah from male and female devils."[282]

In the Arabic version of the hadith the males and females of the devils are referred to as the khubuth and khabaiith repectively.

It can be comprehended that jinn are almost always present in toilets that is why we have to seek refuge whenever we go to these places. Also, another comprehension is that jinn are present inside stool and urine of human. [283] The latter idea is supported by the following prophetic saying:

+ Ibn Atiq reported: Al-Qasim was in the presence of 'A'isha (Allah be pleased with her) that I narrated a hadith and Qasim was a man who committed errors in (pronouncing words) and his mother was a freed slave-girl. 'A'isha said to him: What is the matter with you that you do not narrate as this son of my brother narrated (the ahaditb)? Well, I know from where you picked it up. This is how his mother brought him up and how your mother brought you up. Qasim felt angry (on this remark of Hadrat 'A'isha) and showed bitterness towards her. When he saw that the table had been spread for 'A'isha, he stood up, 'A'isha, said: Where are you going? He said:

281 Tavalire, Hannah F., Christie, Diana M., Leve, Leslie D., Ting, Nelson , Cresko, William A. Bohannan, Brendan J. M. shared Environment and Genetics Shape the Gut Microbiome after Infant Adoption. ASM Journals mBio, Vol. 12, No. 2, Crossref DOI link: https://doi.org/10.1128/MBIO.00548-21 . Published: 2021-04-27

282 Sahih abi Dawud, Book 1, Hadith 6, http://sunnah.com/abudawud/1/6

283 Fathul barri sharh sahih Al Bukhari, book 1, page 293

(I am going) to say prayer. She said: Sit down (to take the food). He said: I must say prayer. She said: Sit down,) faithless, for I have heard the Messenger of Allah (ﷺ) say: No prayer can be (rightly said) when the food is there (before the worshipper), or when he is prompted by the call of nature.[284]

The Arabic version of this saying: the call of nature is al akhbathan= which means the two most wicked (meaning the urine and stool). In the hadith prior to this hadith the two most wicked were defined as the the males and females of jinn. Therefore, one can replace the latter saying with the first one the result will be that alakhbathan (urine and stool) are from the male and females of the satan. Also, the cells of satan can be found in both stool and urine. Moreover, the urge (urgncey in the long term for both urine and stool) is caused by satan found in urine and stool. Furthermore, that the satan associated with toilets are usually are those related to the faeces and urine.

## Gut and urinary bladder microbiota and their role in urgency and their presence in toilets:

# Gibbons SM, have found: Human-associated bacteria dominate the built environment (BE). Following decontamination of floors, toilet seats, and soap dispensers in four public restrooms, *in situ* bacterial communities were characterized hourly, daily, and weekly to determine their successional ecology. The viability of cultivable bacteria, following the removal of dispersal agents (humans), was also assessed hourly. A late-successional community developed within 5 to 8 h on restroom floors and showed remarkable stability over weeks to months. Despite late-successional dominance by skin- and outdoor-associated bacteria, the most ubiquitous organisms were predominantly gut-associated taxa, which persisted following exclusion of humans. Staphylococcus represented the majority of the cultivable community, even after several hours of human exclusion. Methicillin-resistant Staphylococcus aureus (MRSA)-associated virulence genes were found on floors but were not present in assembled Staphylococcus pan-genomes. Viral abundances, which were

284 Sahih muslim, The Book of Mosques and Places of Prayer (5), Chapter: It is disliked to offer salat in the presence of food that one wants to eat. It is disliked to offer salat while restraining the urge to relieve oneself, and so on (16), Hadith no. 560a

predominantly enterophages, human papilloma virus, and herpesviruses, were significantly correlated with bacterial abundances and showed an unexpectedly low virus-to-bacterium ratio in surface-associated samples, suggesting that bacterial hosts are mostly dormant on BE surfaces.[285]

One can postulate that bacteria are abundant in toilets. Also, those abundant bacteria are coming from the stool (colon).

# Martínez I, Muller CE, Walter have postulated: In this study, we have characterized the fecal microbial communities of three human individuals over a one-year period by 454 pyrosequencing of 16S rRNA tags in order to investigate the temporal characteristics of the bacterial communities. The findings revealed a temporal core of 33 to 40 species-level Operational Taxonomic Units (OTUs) within subjects. In conclusion, this study revealed that the human fecal microbiota is dominated by around 40 species that maintain persistent populations over the duration of one year. The findings allow conclusions about the ecological factors that shape the community and support the concept of a homeostatic ecosystem controlled largely by deterministic processes.286

# Lewis Debbie, Brown Richard, Williams Jon, White Paul, Jacobson Susan, Marchesi Julian, Drake Marcus, have found: We studied the urinary microbiota from a population of healthy individuals, ranging from 26 to 90 years of age, by amplification of the 16S rRNA gene, with resulting amplicons analyzed by 454 pyrosequencing. Mid-stream urine (MSU) was collected by the "clean-catch" method. Quantitative PCR of 16S rRNA genes in urine samples, allowed relative enumeration of the bacterial loads. Analysis of the samples indicates that females had a more heterogeneous mix of bacterial genera compared to the male samples and generally had representative members of the phyla Actinobacteria and Bacteroidetes. Analysis of the data leads us to conclude that a "core" urinary microbiome could potentially exist, when samples are grouped by age with fluctuation in abundance between age groups. The study also revealed age-specific

285 Gibbons SM, Schwartz T, Fouquier J, Mitchell M, Sangwan N, Gilbert JA, Kelley ST. Ecological succession and viability of human-associated microbiota on restroom surfaces. Appl Environ Microbiol. 2015 Jan;81(2):765-73. doi: 10.1128/AEM.03117-14. Epub 2014 Nov 14. PMID: 25398865; PMCID: PMC4277569.
286 Martínez I, Muller CE, Walter J (2013) Long-Term Temporal Analysis of the Human Fecal Microbiota Revealed a Stable Core of Dominant Bacterial Species. PLoS ONE 8(7): e69621. https://doi.org/10.1371/journal.pone.0069621

genera Jonquetella, Parvimonas, Proteiniphilum, and Saccharofermentans. In conclusion, conventional microbiological methods are inadequate to fully identify around two-thirds of the bacteria identified in this study [287]

One can determine the fact that microbiotas (bacterial populations) are found in both urine and faeces which are persistant.

# Perez-Carrasco V, Soriano-Lerma A, Soriano M, Gutiérrez-Fernández J and Garcia-Salcedo JA have discussed: Interestingly, a recent study has shown that uropathogenic bacteria in the urobiome of patients suffering UUI (urge urinary incontinence), such as *Escherichia coli* or some *Gardnerella vaginalis* strains, can induce the release of ATP and a $Ca^{2+}$ influx into uroepithelial cells, ultimately favoring the contraction of the smooth muscle cells in the urinary bladder. On the other hand, *Lactobacillus* members impair the production of ATP and the $Ca^{2+}$ flow generated by these bacteria, preventing muscle cells contraction (Abbasian et al., 2019). Therefore, members of the urinary microbiota might be involved in the contraction of the urinary bladder contributing to the pathophysiology of UUI.[288]

UUI= urge urinary incontinence

Therefore, one can conclude that bacteria of the urinary microbiome can cause urge incontinenece.

# Vandeputte D, Falony G, Vieira-Silva S, Tito RY, Joossens M, Raes J. have discovered: **Results:** Stool consistency strongly correlates with all known major microbiome markers. It is negatively correlated with species richness, positively associated to the Bacteroidetes:Firmicutes ratio, and linked to *Akkermansia* and *Methanobrevibacter* abundance. Enterotypes are distinctly distributed over the BSS-scores. Based on the correlations between microbiota growth potential and stool consistency scores within both enterotypes, we hypothesise that accelerated transit contributes to

287 Lewis Debbie, Brown Richard, Williams Jon, White Paul, Jacobson Susan, Marchesi Julian, Drake Marcus, The human urinary microbiome; bacterial DNA in voided urine of asymptomatic adults ,Frontiers in Cellular and Infection Microbiology ,3 ,2013 ,https://www.frontiersin.org/article/10.3389/fcimb.2013.00041 DOI=10.3389/fcimb.2013.00041

288 Perez-Carrasco V, Soriano-Lerma A, Soriano M, Gutiérrez-Fernández J and Garcia-Salcedo JA (2021) Urinary Microbiome: Yin and Yang of the Urinary Tract. *Front. Cell. Infect. Microbiol.* 11:617002. doi: 10.3389/fcimb.2021.617002

colon ecosystem differentiation. While shorter transit times can be linked to increased abundance of fast growing species in Ruminococcaceae-*Bacteroides* samples, hinting to a washout avoidance strategy of faster replication, this trend is absent in *Prevotella*-enterotyped individuals. Within this enterotype adherence to host tissue therefore appears to be a more likely bacterial strategy to cope with washout.

**Conclusions** The strength of the associations between stool consistency and species richness, enterotypes and community composition emphasises the crucial importance of stool consistency assessment in gut metagenome-wide association studies.[289]

# Kwon HJ, et al have discovered: Results: Fecal samples were collected from a total of 60 individuals (31 men and 29 women, aged 34.1±5.88 years), and each group comprised 20 individuals. The microbial richness of group 1 was significantly higher than that of group 3 and tended to decrease with increasing number of defecation ($P<0.05$). The biological community composition was fairly different according to the number of defecations, and Bacteroidetes to Firmicutes ratio was higher in group 1 than in the other groups. Moreover, we found specific strains at the family and genus levels in groups 1 and 3.

Conclusions

Bacteroidetes to Firmicutes ratio and the abundance of Bifidobacterium were different according to the stool frequency, and specific bacteria were identified in the subjects with large and small numbers of defecation, respectively. These findings suggest that stool frequency might be associated with the richness and community composition of the gut microbiota.[290]

From those research and reviews one can conclude that stool consistencey which means solid or loose are associated with types of bacteria from gut microbiota. This inturn, means that constipation and diarrhea can be linked to the microbiome of the gut. Also, those diseases which can cause frequent stools can be linked to bacteria.

289 Vandeputte D, Falony G, Vieira-Silva S, Tito RY, Joossens M, Raes J. Stool consistency is strongly associated with gut microbiota richness and composition, enterotypes and bacterial growth rates. Gut. 2016 Jan;65(1):57-62. doi: 10.1136/gutjnl-2015-309618. Epub 2015 Jun 11. PMID: 26069274; PMCID: PMC4717365.

290 Kwon HJ, Lim JH, Kang D, Lim S, Park SJ, Kim JH. Is stool frequency associated with the richness and community composition of gut microbiota? Intest Res. 2019 Jul;17(3):419-426. doi: 10.5217/ir.2018.00149. Epub 2019 Feb 7. PMID: 30704159; PMCID: PMC6667361.

## 5.10. The satan and his horns as a comrade

+ ALLAH the only LORD of the world the most high said: And (also) those who spend of their substance to be seen of men, and believe not in Allâh and the Last Day [they are the friends of Shaitân (Satan)], and whoever takes Shaitân (Satan) as an intimate; then what a dreadful intimate he has!

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan [291]

One has postulated previously that virus is the horn part of satan's body. Also, not all jinns have virus or horns attached to their head or body. Therefore, in a biofilm one can find viruses. This mean that viruses are the body parts for the attack of satan against other species. Also, only devils have horns. moreover, other verses will come later that horns can be used to harm humans other than infection like envy and magic. Therefore, from the above verse a person can extract the fact that the horn part of satan is worst companion for humans.

### The virome of the humans:

# Jessica A. Neil, Ken Cadwell have written: The composition of the human microbiome is considered a major source of interindividual variation in immunity and, by extension, susceptibility to diseases. Intestinal bacteria have been the major focus of research. However, diverse communities of viruses that infect microbes and the animal host cohabitate the gastrointestinal tract and collectively constitute the gut virome. Although viruses are typically investigated as pathogens, recent studies highlight a relationship between the host and animal viruses in the gut that is more akin to host–microbiome interactions and includes both beneficial and detrimental outcomes for the host. These viruses are likely sources of immune variation, both locally and extraintestinally. In this review, we describe the components of the gut virome, in particular mammalian viruses, and their ability to modulate host responses during homeostasis and disease……..Conclusion: Significant progress has been made in the last decade toward understanding enteric viruses beyond their role as pathogens. Although we continue to perform essential research into the pathogenic role of viruses and develop antivirals and vaccines, we can no longer ignore the possibility that they function as components of the

291 Quran, Chapter 4 (Al Nisaa), verse no. 38

microbiome. Like bacteria, the effects that viruses have are critically dependent on their tissue location, microenvironment, and host. These factors will directly influence whether the virus acts beneficially, acts detrimentally, or remains neutral for the host. With recent advances in metagenomics coupled with techniques that enrich in sensitivity, we can now perform large human studies with the aim of linking changes in specific viral populations with disease pathogenesis.[292]

# Mukhopadhya I, et al have concluded: Characterization of the gut virome is still in its infancy, with a requirement for new viruses to be identified and characterized in order that its full functional impact can be defined. We are a very long way from proving Koch's postulates of disease causality for the gut virome and its constituents. Major questions remain in order to allow the field to move forward. The continued evolution of high-throughput sequencing accessibility is allowing our understanding of the gut virome to increase exponentially, but this still lags behind our ability to interrogate other components of the gut microbiota. The 'elephant in the room' remains that our understanding of viromes to date is principally built and based on fragments of sequences and fragmented genomes of prophages which may not generate productive/infective phages. It is highly possible that the gut virome may be an undiscovered entity in understanding disease pathways that contribute to the inflammatory process. However, in order to discover this, consideration of the gut virome needs to parallel that of gut bacterial and fungal diversity. Once the intrinsic tripartite relationship between the three components of the gut microbiome is clearly understood and its alteration documented in IBD, the field of microbial-based IBD therapeutics will be transformed.[293]

# Focà A, et al have discovered the following: The human virome comprises viruses that infect host cells, virus-derived elements in our chromosomes, and viruses that infect other organisms, including bacteriophages and plant viruses. The development of high-throughput sequencing techniques has shown that the human gut microbiome is a

292 Jessica A. Neil, Ken Cadwell. The Intestinal Virome and Immunity. The Journal of Immunology September 15, 2018, 201 (6) 1615-1624; **DOI:** 10.4049/jimmunol.1800631

293 Mukhopadhya I, Segal JP, Carding SR, Hart AL, Hold GL. The gut virome: the 'missing link' between gut bacteria and host immunity? Therap Adv Gastroenterol. 2019 Mar 25;12:1756284819836620. doi: 10.1177/1756284819836620. PMID: 30936943; PMCID: PMC6435874.

complex community in which the virome plays a crucial role into regulation of intestinal immunity and homeostasis. Nevertheless, the size of the human virome is still poorly understood. Indeed the enteric virome is in a continuous and dynamic equilibrium with other components of the gut microbiome and the gut immune system, an interaction that may influence the health and disease of the host. We review recent evidence on the viruses found in the gastrointestinal tract, discussing their interactions with the resident bacterial microbiota and the host immune system, in order to explore the potential impact of the virome on human health.[294]

From the above reviews one can postulate that the virome plays a crucial role in the immunity of the humans. This inturn leads to the fact that virome mostly are related to certain dieases as they can manipulate the immunity of a human.

## 5.11. Flatulence and satan:

**+ Narrated Abu Huraira:** Allah's Messenger (ﷺ) said, "When the Adhan is pronounced Satan takes to his heels and passes wind with noise during his flight in order not to hear the Adhan. When the Adhan is completed, he comes back and again takes to his heels when the Iqama is pronounced and after its completion, he returns again till he whispers into the heart of the person (to divert his attention from his prayer) and makes him remember things which he does not recall to his mind before the prayer and that causes him to forget how much he has prayed."[295]

We have previously discussed that every human being has a companion from devil. In consequence, this satan makes flatuelence in human guts. When these, accumulate they will pass from the anus of the humans.

### Flatulence and the gut microbiome:

# Manichanh C, Eck A, Varela E, *et al*, have pointed out: Our data indicate, first, that flatulence is associated with other abdominal symptoms and loss of digestive comfort; second, that the net volume of gas produced by flatulent patients after a standard meal is within the normal range; third,

294 Focà A, Liberto MC, Quirino A, Marascio N, Zicca E, Pavia G. Gut inflammation and immunity: what is the role of the human gut virome? Mediators Inflamm. 2015;2015:326032. doi: 10.1155/2015/326032. Epub 2015 Apr 7. PMID: 25944980; PMCID: PMC4405218.

295 Sahih Al Bukhari, (10) Call to Prayers (Adhaan), (4) Chapter: Superiority of the Adhan, hadith 608

that diet influences gas production and flatulence as well as abdominal symptoms and digestive comfort in healthy subjects and more so in flatulent patients; and fourth, that there are differences in composition and stability of the gut microbial ecosystem between patients with flatulence and healthy subjects.

It has been shown that some food components in the normal diet, such as resistant starch, oligosaccharides and plant fibres, are incompletely absorbed in the small bowel and enter the colon. The colon harbours large number of bacteria that may ferment these products releasing hydrogen and carbon dioxide. However, other pools of colonic microorganisms, particularly sulfate-reducing bacteria, acetogenic bacteria and methanogenic archaea, consume a large proportion of the gases produced by fermentation. Hypothetically, profiling the whole spectrum of resident colonic bacteria may help in understanding the differences in gas metabolism and evacuation between individuals.[296]

Clearly, one can confidently say that the gut microbiota has a great role in the production of flatulence.

## 5.12. Human hair and devil

**+ Abu Rafi narrated that:** He passed by Al-Hasan bin Ali while he was performing Salat and he had gathered his locks at the back of his head, so he (Abu Rafi) undid them, and Al-Hasan turned to him angrily. He said: "Resume your Salat and do not be angry, for indeed I heard Allah's Messenger (S) saying: 'That is the seat of Ash-Shaitan.'"[297]
Therefore, one can deduct that devil's bodily cells can be found in human hairs specially those which are locked. On the other hand, if this part (the seat of satan) is not authentic, it is unlawful to lock hair in prayers. This will come in the next few chapters.

### Human hair microbiome:

# Constantinou A, Kanti V, Polak-Witka K, Blume-Peytavi U, Spyrou GM, Vogt A have deducted: Human skin and hair follicles are recognized sites of microbial colonization. These microbiota help regulate host immune

296 Manichanh C, Eck A, Varela E, *et al*, Anal gas evacuation and colonic microbiota in patients with flatulence: effect of diet, *Gut* 2014;**63:**401-408.
297 Jami` at-Tirmidhi, (2) The Book on Salat (Prayer), (165) Chapter: What Has Been Related About It Being Disliked To Gather The Hair During Salat, hadith 384

mechanisms via an interplay between microbes and immune cells, influencing homeostasis and inflammation. Bacteria affect immune responses by controlling the local inflammatory milieu, the breakdown of which can result in chronic inflammatory disorders. Follicular microbiome shifts described in some inflammatory cutaneous diseases suggest a link between their development or perpetuation and dysbiosis. Though the hair follicle infundibulum is an area of intense immunological interactions, bulb and bulge regions represent immune-privileged niches. Immune privilege maintenance seems essential for hair growth and regeneration, as collapse and inflammation characterize inflammatory hair disorders like alopecia areata and primary cicatricial alopecia. Current research largely focuses on immunological aberrations.[298]

This paper confirms that there is a microbiota dwelling on the hair.

## 5.13. The presence of devil in different places and in multiple numbers attached to humans:

**+ Jabir b. 'Abdullah reported Allah's Messenger (ﷺ) as saying:**When a person enters his house and mentions the name of Allah at the time of entering it and while eating the food, Satan says (addressing himself: You have no place to spend the night and no evening meal; but when he enters without mentioning the name of Allah, the Satan says: You have found a place to spend the night, and when he does not mention the name of Allah while eating food, he (the Satan) says: You have found a place to spend the night and evening meal.[299]

**+ Jabir reported:** I heard Allah's Apostle (ﷺ) as saying: The Satan is present with any one of you in everything he does; he is present even when he eats food; so if any one of you drops a mouthful he should remove away anything filthy on it and eat it and not leave for the devil; and when he finishes (food) he should lick his fingers, for he does not know in what portion of his food the blessing lies.[300]

298 Constantinou A, Kanti V, Polak-Witka K, Blume-Peytavi U, Spyrou GM, Vogt A. The Potential Relevance of the Microbiome to Hair Physiology and Regeneration: The Emerging Role of Metagenomics. Biomedicines. 2021 Feb 26;9(3):236. doi: 10.3390/biomedicines9030236. PMID: 33652789; PMCID: PMC7996884.

299 Sahih Muslim, (36) The Book of Drinks, (13) Chapter: The etiquette of eating and drinking, and rulings thereon, Hadith 2018a

300Sahih Muslim, (36) The Book of Drinks, (13) Chapter: It is recommended to lick one's fingers and wipe the bowl, and to eat a piece of food that is dropped after removing any dirt on it. It is disliked to wipe one's hand

The first hadith indicates that the devils associated with humans during their lifespan are multiple as this was indicated by the plueral pronoun we. Also, it signifies that they will have a place for sleep (inside the house) and food. The second hadith confirm those strong implications.

## Gut microbiota:

# Motta, JP., Wallace, J.L., Buret, A.G. *et al.* have hypothesized:

1. Polymicrobial biofilms naturally grow throughout the gastrointestinal tract, both at the epithelial surface and in the lumen as mucin-attached and food particle-attached colonies.
2. The biofilm lifestyle influences metabolic behaviour of the microbiota but more research is needed to characterize gut biofilm-specific metabolites and their effects on the host response in health and disease.
3. Polymicrobial and trans-kingdom interactions occur in gut biofilms; deciphering the nature of such interactions might improve our current understanding of the homeostatic relationship between the host and its gut microbiota.
4. Abnormal biofilm features are associated with gastrointestinal diseases; characterization of biofilm alterations and cause-to-effect studies are warranted to elucidate their role in pathophysiology.
5. Investigating biogeographical redistribution of biofilms at mucosal surfaces might provide new tools to characterize microbial alterations associated with gastrointestinal diseases and options for therapeutic intervention.[301]

# Bai F, Cai Z, Yang L. have discussed: It is evident that biofilms have a huge impact on composition and function of human microbiome. Biofilm formation can be a strategy for structural organization of microbiota, which confers long term stability. The extensive interspecies interactions within biofilms might facilitate division of labour for different species within the microbiota. Numerous questions remain to be answered regarding the fundamental mechanisms of biofilm formation in microbiota: i) which species are the core biofilm formers that initiate biofilm formation? 2) what are the key biofilm physical and chemical properties that determine

before licking it, because of the possibility that the blessing of the food may be in that remaining part. The Sunnah is to eat with three fingers , hadith 2033d

301 Motta, JP., Wallace, J.L., Buret, A.G. *et al.* Gastrointestinal biofilms in health and disease. *Nat Rev Gastroenterol Hepatol* (2021). https://doi.org/10.1038/s41575-020-00397-y

microbiome composition and function? 3) what are the effective strategies to manipulate the biofilms (e.g. induce biofilm formation or dispersal) within human microbiota? Answering these questions might provide novel insights on the human microbiome and its associated diseases. [302]

# López D, Vlamakis H, Kolter R. have debated: As presented, the majority of microbes are able to develop multicellular biofilm communities. These communities are composed of subpopulations of different cell types that provide additional benefits to the organisms. There are numerous differences among the mechanisms that induce biofilm formation in different species. Even considering only four of the best-known bacterial models (E. coli, P. aeruginosa, S. aureus, and B. subtilis), the discrepancies between the processes involved in the formation of biofilms among these examples are broad. A vast array of exopolysaccharides, secreted proteins and cell-surface adhesins contribute to the structural integrity of biofilms. Small molecules such as homoserine lactones, antibiotics, and other secondary metabolites play a critical role in the development and maintenance of biofilm communities.303

The writer thinks that those multiple number may be around few- tens but not billions or millions or even thousands.

## 5.14. The attache can cause disease anywhere in the human body

**+ Narrated Safiya bint Huyay:** While Allah's Messenger (ﷺ) was in I`tikaf, I called on him at night and having had a talk with him, I got up to depart. He got up also to accompany me to my dwelling place, which was then in the house of Usama bin Zaid. Two Ansari men passed by, and when they saw the Prophet (ﷺ) they hastened away. The Prophet said (to them). "Don't hurry! It is Safiya, the daughter of Huyay (i.e. my wife)." They said, "Glorified be Allah! O Allah's Messenger (ﷺ)! (How dare we suspect you?)" He said, "Satan circulates in the human as blood circulates in it, and

302 Bai F, Cai Z, Yang L. Recent progress in experimental and human disease-associated multi-species biofilms. Comput Struct Biotechnol J. 2019 Oct 25;17:1234-1244. doi: 10.1016/j.csbj.2019.09.010. PMID: 31921390; PMCID: PMC6944735.

303 López D, Vlamakis H, Kolter R. Biofilms. Cold Spring Harb Perspect Biol. 2010 Jul;2(7):a000398. doi: 10.1101/cshperspect.a000398. Epub 2010 Jun 2. PMID: 20519345; PMCID: PMC2890205.

I was afraid that Satan might throw an evil thought (or something) into your hearts."[304]

The above hadith means that the attached satan can reach anywhere that the blood can reach inside the human body. This is everywhere inside the human body. In the consequence, satan can cause disease everywhere that the blood reaches.

### The Microbiota responsible for most of human diseases:

# Bull MJ, Plummer NT. Have argued: The bacterial cells harbored within the human gastrointestinal tract (GIT) outnumber the host's cells by a factor of 10 and the genes encoded by the bacteria resident within the GIT outnumber their host's genes by more than 100 times. These human digestive-tract associated microbes are referred to as the gut microbiome. The human gut microbiome and its role in both health and disease has been the subject of extensive research, establishing its involvement in human metabolism, nutrition, physiology, and immune function. Imbalance of the normal gut microbiota have been linked with gastrointestinal conditions such as inflammatory bowel disease (IBD) and irritable bowel syndrome (IBS), and wider systemic manifestations of disease such as obesity, type 2 diabetes, and atopy. [305]

This paper indicated that the gut microbiota and most disease everywhere in the human body are related.

## 5.15. Thirst and hunger in humans and its relationship to the attached satan:

+ Allah the most great says: Verily, you have (a promise from Us) that you will never be hungry therein nor naked.(118). And you (will) suffer not from thirst therein nor from the sun's heat.(119)

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

It is (vouchsafed) unto thee that thou hungerest not therein nor art naked,(118), And that thou thirstest not therein nor art exposed to the sun's heat.(119)

[304] Sahih al Bukhari, 59 Beginning of Creation, (11) Chapter: The characteristics of Iblis (Satan) and his soldiers, hadith 3281

305 Bull MJ, Plummer NT. Part 1: The Human Gut Microbiome in Health and Disease. Integr Med (Encinitas). 2014 Dec;13(6):17-22. PMID: 26770121; PMCID: PMC4566439.

— Pickthall [306]

+ Allah the most magnificent says: A speaker of them will say: "Verily, I had a companion (in the world),

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

A speaker of them saith: Lo! I had a comrade

— Pickthall [307]

+ **Allah be glorified has said:** A drink ˹of pure wine˺ will be passed around to them from a flowing stream: (45)

— Dr. Mustafa Khattab, the Clear Quran

There will be circulated among them a cup [of wine] from a flowing spring, (45)

— Saheeh International

crystal-white, delicious to drink.(46)

— Dr. Mustafa Khattab, the Clear Quran

White and delicious to the drinkers; (46)

— Saheeh International[308]

These verses refer that a person in heaven will not be hungary or thirsty. This is not related to the excess of food and drinks as the food and the drink is for pleasure (something excess for humans not a need). In addition, the comrade or the attache will be detached if that person enters the heaven. Therefore, one can extract the fact that the cause of thirst and hunger in this life are the companions from the jinns. This idea is further robusted by the following hadiths:

+ Narrated Abu Huraira: Allah's Messenger (ﷺ) said, "The first group (of people) who will enter Paradise will be (glittering) like the moon when it is full. They will not spit or blow their noses or relieve nature. Their utensils will be of gold and their combs of gold and silver; in their centers the aloe wood will be used, and their sweat will smell like musk. Everyone of them will have two wives; the marrow of the bones of the wives' legs will be seen through the flesh out of excessive beauty. They ( i.e. the people of Paradise) will neither have differences nor hatred amongst themselves;

306 Quran, Chapter 20 (Taha), Verses 118-119
307 Quran, Chapter 37 (Ass-Saffat), Verses 51
308 Quran, Chapter 37 (Ass-Saffat), Verses 45-46

their hearts will be as if one heart and they will be glorifying Allah in the morning and in the evening."[309]

+ Narrated Abu Huraira: Allah's Messenger (ﷺ) said, "The first batch (of people) who will enter Paradise will be (glittering) like a full moon; and those who will enter next will be (glittering) like the brightest star. Their hearts will be as if the heart of a single man, for they will have no enmity amongst themselves, and everyone of them shall have two wives, each of whom will be so beautiful, pure and transparent that the marrow of the bones of their legs will be seen through the flesh. They will be glorifying Allah in the morning and evening, and will never fall ill, and they will neither blow their noses, nor spit. Their utensils will be of gold and silver, and their combs will be of gold, and the fuel used in their centers will be the aloeswood, and their sweat will smell like musk." [310]

+Narrated Abu Huraira: Allah's Messenger (ﷺ) said, "The first group of people who will enter Paradise, will be glittering like the full moon and those who will follow them, will glitter like the most brilliant star in the sky. They will not urinate, relieve nature, spit, or have any nasal secretions. Their combs will be of gold, and their sweat will smell like musk. The aloes-wood will be used in their centers. Their wives will be houris. All of them will look alike and will resemble their father Adam (in stature), sixty cubits tall."[311]

In the hadiths there are strong indications that thirst and hunger are from Satan in this world, as the people of Paradise eat and drink, but they do not have mucus, nor urinate, or defecate, or become sick, because there is no satan or the companion of the jinn.

## Microbiota and hunger and thirst:

# Zimmerman CA, Huey EL, Ahn JS, Beutler LR, Tan CL, Kosar S, Bai L, Chen Y, Corpuz TV, Madisen L, Zeng H, Knight ZA. have discussed the physiology of the appetite and thirst: Satiation is the process by which eating and drinking reduce appetite. For thirst, oropharyngeal cues have a

309 Sahih Al Bukhari, the book of beginning of creation 59, (8) Chapter: The characteristics of Paradise, and the fact that it has already been created, hadith no. 3245

310 Sahih Al Bukhari, the book of beginning of creation 59, (8) Chapter: The characteristics of Paradise, and the fact that it has already been created, hadith no. 3246

311 Sahih Al Bukhari, the book of prophets 60, chapter (1) Chapter: The creation of Adam and his offspring, hadith no. 3327

critical role in driving satiation by reporting to the brain the volume of fluid that has been ingested. By contrast, the mechanisms that relay the osmolarity of ingested fluids remain poorly understood. Here we show that the water and salt content of the gastrointestinal tract are precisely measured and then rapidly communicated to the brain to control drinking behaviour in mice. We demonstrate that this osmosensory signal is necessary and sufficient for satiation during normal drinking, involves the vagus nerve and is transmitted to key forebrain neurons that control thirst and vasopressin secretion. Using microendoscopic imaging, we show that individual neurons compute homeostatic need by integrating this gastrointestinal osmosensory information with oropharyngeal and blood-borne signals. These findings reveal how the fluid homeostasis system monitors the osmolarity of ingested fluids to dynamically control drinking behaviour. [312]

# Lu CC, Ma KL, Ruan XZ, Liu BC have provided clues for the connection between gut and diabetic renal disease: As mentioned above, there exists a complex interplay between gut microbiota and components of intrarenal RAS (renin angiotensin system) in DN (diabetic nephropathy). In terms of the association with heightened inflammatory state and metabolic disturbance of gut microbiota, progression of DN renal injuries might be potentially attributed to this gut-kidney axis in which local RAS is possibly involved. [313]

# Fetissov SO. Has explained the role of gut microbiota in controlling appetite: The life of all animals is dominated by alternating feelings of hunger and satiety - the main involuntary motivations for feeding-related behaviour. Gut bacteria depend fully on their host for providing the nutrients necessary for their growth. The intrinsic ability of bacteria to regulate their growth and to maintain their population within the gut suggests that gut bacteria can interfere with molecular pathways controlling energy balance in the host. The current model of appetite control is based mainly on gut-brain signalling and the animal's own needs

312 Zimmerman CA, Huey EL, Ahn JS, Beutler LR, Tan CL, Kosar S, Bai L, Chen Y, Corpuz TV, Madisen L, Zeng H, Knight ZA. A gut-to-brain signal of fluid osmolarity controls thirst satiation. Nature. 2019 Apr;568(7750):98-102. doi: 10.1038/s41586-019-1066-x. Epub 2019 Mar 27. PMID: 30918408; PMCID: PMC6483081.

313 Lu CC, Ma KL, Ruan XZ, Liu BC. Intestinal dysbiosis activates renal renin-angiotensin system contributing to incipient diabetic nephropathy. Int J Med Sci. 2018 May 22;15(8):816-822. doi: 10.7150/ijms.25543. PMID: 30008592; PMCID: PMC6036087.

to maintain energy homeostasis; an alternative model might also involve bacteria-host communications. Several bacterial components and metabolites have been shown to stimulate intestinal satiety pathways; at the same time, their production depends on bacterial growth cycles. This short-term bacterial growth-linked modulation of intestinal satiety can be coupled with long-term regulation of appetite, controlled by the neuropeptidergic circuitry in the hypothalamus. Indeed, several bacterial products are detected in the systemic circulation, which might act directly on hypothalamic neurons. This Review analyses the data relevant to possible involvement of the gut bacteria in the regulation of host appetite and proposes an integrative homeostatic model of appetite control that includes energy needs of both the host and its gut bacteria.[314]

# van de Wouw M, Schellekens H, Dinan TG, Cryan JF have found: The gut harbors an enormous diversity of microbes that are essential for the maintenance of homeostasis in health and disease. A growing body of evidence supports the role of this microbiota in influencing host appetite and food intake. Individual species within the gut microbiota are under selective pressure arising from nutrients available and other bacterial species present. Each bacterial species within the gut aims to increase its own fitness, habitat, and survival via specific fermentation of dietary nutrients and secretion of metabolites, many of which can influence host appetite and eating behavior by directly affecting nutrient sensing and appetite and satiety-regulating systems. These include microbiota-produced neuroactives and short-chain fatty acids. In addition, the gut microbiota is able to manipulate intestinal barrier function, interact with bile acid metabolism, modulate the immune system, and influence host antigen production, thus indirectly affecting eating behavior. A growing body of evidence indicates that there is a crucial role for the microbiota in regulating different aspects of eating-related behavior, as well as behavioral comorbidities of eating and metabolic disorders. The

314 Fetissov SO. Role of the gut microbiota in host appetite control: bacterial growth to animal feeding behaviour. Nat Rev Endocrinol. 2017 Jan;13(1):11-25. doi: 10.1038/nrendo.2016.150. Epub 2016 Sep 12. PMID: 27616451.

importance of intestinal microbiota composition has now been shown in obesity, anorexia nervosa, and forms of severe acute malnutrition.[315]

# Han, H., Yi, B., Zhong, R. *et al.* have reviewed: In this review, the direct and indirect molecular mechanisms how the gut microbiota regulates host appetite were summarized. Although a great number of studies have already linked the gut microbiota and eating behavior, the precise mechanisms through which the gut microbiota influence particular eating disorders, such as anorexia nervosa and food addiction, have not yet been fully deciphered. Understanding how some specific members of the gut microbiota are involved in appetite control may be important to develop novel preventive and therapeutic interventions and even prediction for eating disorders.[316]

These studies show that the appetite and thirst are at least partly controlled by the gut microbiota.

## 5.16. summary of chapter five:

In the lines of this chapter the readers have experienced that there is an attached devil to every human. This is acquired from the mother directly after birth. This phenomenon dates back to the first human being. Moreover, the debate and argument are continuous regarding the presence of human blood microbiome (but it can not be denied). This attached devil can be found in the ears, nose, hair, skin, GIT, and GUT (these are probably tissues of the attached devil). These have found to cause disease where they can be found. It also, can be seen that those who are related or live under the same roof share nearly the same components of the attached microbiota. Moreover, the virome part of th microbiota (horns) plays a role in the human immunity. Lastly, this attached jinn partly interferes with thirst and hunger of the related human.

315 van de Wouw M, Schellekens H, Dinan TG, Cryan JF. Microbiota-Gut-Brain Axis: Modulator of Host Metabolism and Appetite. J Nutr. 2017 May;147(5):727-745. doi: 10.3945/jn.116.240481. Epub 2017 Mar 29. PMID: 28356427.

316 Han, H., Yi, B., Zhong, R. *et al.* From gut microbiota to host appetite: gut microbiota-derived metabolites as key regulators. *Microbiome* **9,** 162 (2021). https://doi.org/10.1186/s40168-021-01093-y

# 6. Chapter six: Some of the effects of the attached satan on humans:

## 6.1. Forgetfulness is from satan:

+ Allah The Almighty says: And when you (Muhammad صلى الله عليه وسلم) see those who engage in a false conversation about Our Verses (of the Qur'ân) by mocking at them, stay away from them till they turn to another topic. And if shaitân (satan) causes you to forget, then after the remembrance sit not you in the company of those people who are the Zâlimûn (polytheists and wrong-doers).[317]

Allah the Almighty clearly states in this verse that satan is the cause of short-term memory loss (forgetfulness) in humans.

+ Also, Allah the greatest says: And he said to the one whom he knew to be saved: "Mention me to your lord (i.e., your king, so as to get me out of the prison)." But shaitân (satan) made him forget to mention it to his Lord [or Satan made Yûsuf (Joseph) to forget the remembrance of his Lord (Allâh) as to ask for His Help, instead of others]. So [Yûsuf (Joseph)] stayed in prison a few (more) years.[318]

Here, in this verse it is clearly stated that joseph (peace be on him) had recommended the sentenced survivor to mention him in front of his king (Lord), but satan has made him to forget for few years.

+ Moreover, Allah the most powerful says: shaitân (Satan) has overpowered them. So, he has made them forget the remembrance of Allâh. They are the party of shaitân (satan). Verily, it is the party of Shaitan (Satan) that will be the losers![319]

Apparently in this verse satan has caused humans to forget the remembarance of ALLAH for all of their lifespan. The average human life span is around 50 -60 years. Which means people can forget around 30-40 years due to satan. if satan can cause forgetfulness for a short and longer peoriods. Then definetly he can cause Alzeheimer's Disease.

317Al Quran, chapter 6 (Al Anaam), verse 68.
318 AL Quran, Chapter 12 (joseph), verse 42.
319Al Quran, Chapter 58 (Al mujadila), verse 19.

# Alzheimer's disease (AD) is a degenerative brain disorder. The disease breaks down and destroys brain cells and the neurons that connect brain cells to one another. This damage causes a decline in memory, behavior, and mental capabilities.[320]

## Forgetfulness and its relationship to the human microbiome:

# Kowalski K, Mulak A have mentioned: Disturbances along the brain-gut-microbiota axis may significantly contribute to the pathogenesis of neurodegenerative disorders. Alzheimer's disease (AD) is the most frequent cause of dementia characterized by a progressive decline in cognitive function associated with the formation of amyloid beta (Aβ) plaques and neurofibrillary tangles. Alterations in the gut microbiota composition induce increased permeability of the gut barrier and immune activation leading to systemic inflammation, which in turn may impair the blood-brain barrier and promote neuroinflammation, neural injury, and ultimately neurodegeneration. Recently, Aβ has also been recognized as an antimicrobial peptide participating in the innate immune response. However, in the dysregulated state, Aβ may reveal harmful properties. Importantly, bacterial amyloids through molecular mimicry may elicit cross-seeding of misfolding and induce microglial priming. The Aβ seeding and propagation may occur at different levels of the brain-gut-microbiota axis. The potential mechanisms of amyloid spreading include neuron-to-neuron or distal neuron spreading, direct blood-brain barrier crossing or via other cells as astrocytes, fibroblasts, microglia, and immune system cells. A growing body of experimental and clinical data confirms a key role of gut dysbiosis and gut microbiota-host interactions in neurodegeneration. The convergence of gut-derived inflammatory response together with aging and poor diet in the elderly contribute to the pathogenesis of AD. Modification of the gut microbiota composition by food-based therapy or by probiotic supplementation may create new preventive and therapeutic options in AD.[321]

#Hu X, Wang T, Jin F have declared: Alzheimer's disease (AD) is a most common neurodegenerative disorder, which associates with impaired

320 https://www.healthline.com/health/alzheimers-disease/life-expectancy . Retrieved in 27/12/2021

321 Kowalski K, Mulak A. Brain-Gut-Microbiota Axis in Alzheimer's Disease. *J Neurogastroenterol Motil*. 2019;25(1):48-60. doi:10.5056/jnm18087

cognition. Gut microbiota can modulate host brain function and behavior via microbiota-gut-brain axis, including cognitive behavior. Germ-free animals, antibiotics, probiotics intervention and diet can induce alterations of gut microbiota and gut physiology and also host cognitive behavior, increasing or decreasing risks of AD. The increased permeability of intestine and blood-brain barrier induced by gut microbiota disturbance will increase the incidence of neurodegeneration disorders. Gut microbial metabolites and their effects on host neurochemical changes may increase or decrease the risk of AD. Pathogenic microbes' infection will also increase the risk of AD, and meanwhile, the onset of AD support the "hygiene hypothesis". All the results suggest that AD may begin in the gut, and is closely related to the imbalance of gut microbiota. Modulation of gut microbiota through personalized diet or beneficial microbiota intervention will probably become a new treatment for AD.[322]

# Heyck M, Ibarra A have concluded: The process of aging underlies many degenerative disorders that arise in the living body, including gradual neuronal loss of the hippocampus that often leads to decline in both memory and cognition. Recent evidence has shown a significant connection between gut microbiota and brain function, as butyrate production by microorganisms is believed to activate the secretion of brain-derived neurotrophic factor (BDNF). To investigate whether modification of intestinal microbiota could impact cognitive decline in the aging brain, Romo-Araiza et al. conducted a study to test how probiotic and prebiotic supplementation impacted spatial and associative memory in middle-aged rats. Their results showed that rats supplemented with the symbiotic (both probiotic and prebiotic) treatment performed significantly better than other groups in the spatial memory test, though not in that of associative memory. Their data also reported that this improvement correlated with increased levels of BDNF, decreased levels of pro-inflammatory cytokines, and better electrophysiological outcomes in the hippocampi of the symbiotic group. Thus, the results indicated that the progression of cognitive impairment is indeed affected by changes in microbiota induced by probiotics and prebiotics. Potential future applications of these findings

322 Hu X, Wang T, Jin F. Alzheimer's disease and gut microbiota. Sci China Life Sci. 2016 Oct;59(10):1006-1023. doi: 10.1007/s11427-016-5083-9. Epub 2016 Aug 26. PMID: 27566465.

center around combatting neurodegeneration and inflammation associated not only with aging but also with the damaging posttraumatic effects of ischemic stroke.[323]

# Fibromyalgia is a disorder characterized by widespread musculoskeletal pain accompanied by fatigue, sleep, memory and mood issues. [324]

# Minerbi A, Fitzcharles MA. Have postulated: "Gut microbiome in fibromyalgia: Early studies of the microbiome in FM used indirect methods to infer changes in this community. ……..Furthermore, the abundance of some differentially abundant species was correlated with symptoms severity. Alterations in the gut microbiome of individuals with FM are not limited to the composition of the bacterial community, but involve significant alterations in the microbe metabolic function. Gut bacteria are the putative source of many of the small metabolites in the circulation, a large proportion of which are yet to be identified……. Finally, in light of the observed alterations in the abundance of butyrate-metabolism-related bacteria, our group utilised a directed metabolomic approach to quantify the concentrations of certain organic acids in the sera of FM patients. Higher levels of butyric acid, lower levels of propionic acid, and similar levels of lactic acid were observed for FM patients compared to controls ."[325]

It is evident that gut microbiota specially bacteria directly affect the function of human's memory for shorter and longer duration.

## 6.2. Satan and laziness and tiredness (fatigue)

+**Narrated Abu Huraira:** Allah's Messenger (ﷺ) said, "During your sleep, Satan knots three knots at the back of the head of each of you, and he breathes the following words at each knot, 'The night is, long, so keep on sleeping,' If that person wakes up and celebrates the praises of Allah, then one knot is undone, and when he performs ablution the second knot is undone, and when he prays, all the knots are undone, and he gets up in the

323 Heyck M, Ibarra A. Microbiota and memory: A symbiotic therapy to counter cognitive decline?. *Brain Circ*. 2019;5(3):124-129. Published 2019 Sep 30. doi:10.4103/bc.bc_34_19

324 https://www.mayoclinic.org/diseases-conditions/fibromyalgia/symptoms-causes/syc-20354780 on 28/12/2021

325 Minerbi A, Fitzcharles MA. Gut microbiome: pertinence in fibromyalgia. Clin Exp Rheumatol. 2020 Jan-Feb;38 Suppl 123(1):99-104. Epub 2020 Feb 12. PMID: 32116215

morning lively and in good spirits, otherwise he gets up in low spirits and lethargic."[326]

+ **Narrated Abu Huraira:** The Prophet (ﷺ) said, "If anyone of you rouses from sleep and performs the ablution, he should wash his nose by putting water in it and then blowing it out thrice, because Satan has stayed in the upper part of his nose all the night."[327]

In these evidences one can identify that satan is the cause of fatigue during and after sleep. Repeated lethargy, tidedrness and weakness is known medically as Chronic fatigue syndrome (CFS) and Fibromyalgia (FM).

# Chronic fatigue syndrome (CFS) is a complicated disorder characterized by extreme fatigue that lasts for at least six months and that can't be fully explained by an underlying medical condition. The fatigue worsens with physical or mental activity, but doesn't improve with rest.[328]

## The relationship between fatigue and human microbiomes:

#Lupo, G.F.D., Rocchetti, G., Lucini, L. *et al.* have found: The present study highlighted significant variations in both the intestinal and oral bacteria composition between CFS (Chronic fatigue syndrome)/ME (Myalgic encephalomyelitis) patients, their relatives and external controls, as shown by changes in the relative abundances of several bacterial taxa. It is also worth noting that in most cases the patients' relatives showed intermediate prevalence values. β-diversity analyses showed a reduced inter-individual variability between CFS/ME patients and healthy subjects for both the salivary and fecal microbiota.

A reduction of Firmicutes and, on the contrary, a significant increase of Bacteroidetes in CFS/ME patients in comparison with the non-CFS/ME groups was shown by the fecal microbiota analyses. The prevalence of these phyla showed intermediate values in patients' relatives, suggesting an environmental influence.

These results agree with those of previous studies, reporting that the intestinal microbiome in CFS/ME patients is characterized by a decreased

326 Sahih Albukhari, Book 59 (Beginning of Creation), (11) Chapter: The characteristics of Iblis (Satan) and his soldiers, hadith 3269

327 Sahih Albukhari, Book 59 (Beginning of Creation), (11) Chapter: The characteristics of Iblis (Satan) and his soldiers, hadith 3269

328 https://www.mayoclinic.org/diseases-conditions/chronic-fatigue-syndrome/symptoms-causes/syc-20360490 in 1/1/2022

of Firmicutes and an increasing of Bacteroidetes. A similar pattern was observed also in the fecal microbiome of patients with Alzheimer's disease. The microbiome is indeed known to play an important role in gut-brain communication through the gut-brain axis, synthesizing a large number of chemical mediators, which can reach distant sites, such as the brain, exerting positive or negative effects on the host health.
We also found a decrease of the Firmicutes/Bacteroidetes (F/B) ratio both in CFS/ME patients and in their relatives: this shift has been already previously described in various autoimmune conditions, such as Chron's disease, Systemic Lupus Erythematous, and diabetes type 2. [329]

# Erdrich S, Hawrelak JA, Myers SP, Harnett JE have reached to the conclusion of: The findings of this review suggest the relationship between the gut microbiome and the pathophysiology of fibromyalgia is a largely underexplored area. Despite the limitations of the included studies, there are several indications that associations between the composition and metabolism of the gastrointestinal microbiota and fibromyalgia may exist. As such, well-designed studies that employ the latest technology and accepted diagnostic testing practices while accounting for confounding factors are warranted. [330]

# Fibromyalgia is a disorder characterized by widespread musculoskeletal pain accompanied by fatigue, sleep, memory and mood issues. [331]

# Minerbi A, Fitzcharles MA. Have postulated: "Elevated gut permeability was observed among FM and CRPS (Complex regional pain syndrome) patients as compared to healthy controls when assessed by measurement of urine disaccharide excretion following a 3-sugar intestinal absorption test.....Furthermore, the abundance of some differentially abundant species was correlated with symptoms severity. Alterations in the gut microbiome of individuals with FM are not limited to the composition of

329 Lupo, G.F.D., Rocchetti, G., Lucini, L. *et al.* Potential role of microbiome in Chronic Fatigue Syndrome/ Myalgic Encephalomyelits (CFS/ME). *Sci Rep* **11,** 7043 (2021). https://doi.org/10.1038/s41598-021-86425-6
330 Erdrich S, Hawrelak JA, Myers SP, Harnett JE. Determining the association between fibromyalgia, the gut microbiome and its biomarkers: A systematic review. BMC Musculoskelet Disord. 2020 Mar 20;21(1):181. doi: 10.1186/s12891-020-03201-9. PMID: 32192466; PMCID: PMC7083062.
331 https://www.mayoclinic.org/diseases-conditions/fibromyalgia/symptoms-causes/syc-20354780 on 28/12/2021

the bacterial community, but involve significant alterations in the microbe metabolic function. Gut bacteria are the putative source of many of the small metabolites in the circulation, a large proportion of which are yet to be identified."[332]

These research dictates the fact that fatigue is directly related to the microbiome function, composition and place.

## 6.3. Sleep physiology and satan: Somnolence and drowsiness are from satan

+ **Allah the All knower says:** (Remember) when He covered you with a slumber as a security from Him, and He caused water (rain) to descend on you from the sky, to clean you thereby and to remove from you the Rijz (whispering, evil-suggestions) of Shaitân (Satan), and to strengthen your hearts, and make your feet firm thereby.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[333]

+Al Tabari said: On the authority of Abdullah bin Masoud - may God be pleased with him - that he said: Drowsiness in combat is safe from God, and during prayer is from satan.[334]

+ **Abu Huraira reported:** We stopped for rest along with the Messenger of Allah (ﷺ) and did not awake till the sun rose. The Apostle of Allah (ﷺ) then told us that everybody should take hold of his camel's nosestring (get out of this ground) for it was the place where devil had visited us. We did accordingly. He then called for water and performed ablution and then performed two prostrations. Ya'qub said: Then he prayed (performed) two prostrations. then takbir was pronounced for prayer and then he offered the morning prayer (in congregation).[335]

+ Al Nawiwi may allah mercy him said: The prophet may peace be up on be on him: (it was the place where devil had visited us), It contains evidence of the desirability of avoiding the places of Satan, and it is clear what is meant by avoidance and avoiding them. [336]

332 Minerbi A, Fitzcharles MA. Gut microbiome: pertinence in fibromyalgia. Clin Exp Rheumatol. 2020 Jan-Feb;38 Suppl 123(1):99-104. Epub 2020 Feb 12. PMID: 32116215

333 Quran, Chapter 8(Al Anfal), verse 11

334 Jamii al bayyan fi taweel ayi al quran, ibn jarir Al tabari, dar hajar, book 11, page 60

335 Sahih muslim, Book 5 (The Book of Mosques and Places of Prayer), (55) Chapter: Making up a missed prayer. And it is recommended to hasten to make it up, hadith 680b

336 Sharh Al Nawawi on sahih muslm, dar Al khair printing, book 5, page 309

+ **Abu Huraira reported Allah's Messenger (ﷺ) as saying:** When the time draws near (when the Resurrection is near) a believer's dream can hardly be false. And the truest vision will be of one who is himself the most truthful in speech, for the vision of a Muslim is the forty-fifth part of Prophecy, and dreams are of three types: one good dream which is a sort of good tidings from Allah; the evil dream which causes pain is from the satan; and the third one is a suggestion of one's own mind; so if any one of you sees a dream which he does not like he should stand up and offer prayer and he should not relate it to people, and he said: I would love to see fetters (in the dream), but I dislike wearing of necklace, for the fetters is (an indication of) one's steadfastness in religion. The narrator said: I do not know whether this is a part of the hadith or the words of Ibn Sirin.[337]

+ **Narrated Abu Qatada:** as below. Narrated Abu Qatada: The Prophet (ﷺ) said, "A good dream is from Allah, and a bad or evil dream is from Satan; so if anyone of you has a bad dream of which he gets afraid, he should spit on his left side and should seek Refuge with Allah from its evil, for then it will not harm him."[338]

+ **Narrated Abu Huraira:** The Prophet (ﷺ) said, "Name yourselves with my name (use my name) but do not name yourselves with my Kunya name (i.e. Abul Qasim). And whoever sees me in a dream then surely he has seen me for Satan cannot impersonate me. And whoever tells a lie against me (intentionally), then (surely) let him occupy his seat in Hell-fire."[339]

It is obvious that satan can interfere with the quality of sleep, deepness and the dream itself.

**The role of the microbiome in the physiology of sleep:**

# Smith RP et. al. has concluded: We found that microbiome diversity (richness, Shannon diversity, and inverse Simpson diversity) was positively correlated with sleep efficiency, and total sleep time, and was negatively correlated with the sleep fragmentation (WASO). In other words, our results suggest that diversity of the gut microbiome promotes healthier sleep. This contrasts with two previous studies in humans that

337 Sahih muslim, Book 42 (The Book dreams), hadith 2263a

338 Sahih Albukhari, Book 59 (Beginning of Creation), (11) Chapter: The characteristics of Iblis (Satan) and his soldiers, hadith 3292

339 Sahih Albukhari, Book 3 (Knowledge), (38) Chapter: The sin of a person who tells a lie against the Prophet (saws), hadith 110

suggested that microbiome diversity is insignificantly affected following a period of sleep restriction. A critical difference between these studies and ours is that our study measured sleep over an extended period of time (one month) while the previous studies manipulated sleep by experimentally restricting sleep. Accordingly, it is possible that short-term manipulations to sleep do not influence the gut microbiome diversity, but rather that microbiome diversity can influence sleep in the long term.[340]

One can conclude that gut microbes can influence sleep physiology and period of sleep.

## 6.4. Epilepsy and satan:

+ Allah the most great says: Those who eat Ribâ (usury) will not stand (on the Day of Resurrection) except like the standing of a person beaten by Shaitân (Satan) leading (touches) him to insanity. That is because they say: "Trading is only like Ribâ (usury)," whereas Allâh has permitted trading and forbidden Ribâ (usury). So, whosoever receives an admonition from his Lord and stops eating Ribâ (usury) shall not be punished for the past; his case is for Allâh (to judge); but whoever returns [to Ribâ (usury)], such are the dwellers of the Fire - they will abide therein.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan [341]

+Allah the most great says: Verily, those who are Al-Muttaqûn (the pious), when an evil thought comes to them from Shaitân (Satan), they remember (Allâh), and (indeed) they then see (aright).

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

Allah the most great says: Indeed, those who fear Allah - when an impulse touches them from Satan, they remember [Him] and at once they have insight.

— Saheeh International[342]

+Allah the most great says: And say, "My Lord, I seek refuge in You from the incitements of the devils,

340 Smith RP, Easson C, Lyle SM, Kapoor R, Donnelly CP, Davidson EJ, Parikh E, Lopez JV, Tartar JL. Gut microbiome diversity is associated with sleep physiology in humans. PLoS One. 2019 Oct 7;14(10):e0222394. doi: 10.1371/journal.pone.0222394. PMID: 31589627; PMCID: PMC6779243.

341 Al Quran, Chapter 2 (AlBaqara), verse 275

342 Al Quran, chapter 7(Al aaraf), verse 201

— Saheeh International [343]

+The touch of satan was known to be epilepsy among arabs at the time of revelation of Al Quran. The meaning that the person who takes usury will be resurrected as a person with madness or epilepsy is a unanimous decision among Quran interperters.[344]

## Epilepsy and the causative factors?

# Lum GR, Olson CA, Hsiao EY et al has concluded: The gut microbiota is increasingly recognized as an important factor in epilepsy. Epilepsy is a highly heterogeneous disorder requiring understanding of interactions between genetic and environment risk. The gut microbiota regulates immunity and inflammation, metabolism, and peripheral and central neuronal signaling, pathways independently linked to epileptogenesis. Continued studies are warranted to understand the gut microbiota as a mediator of environmental variables, like diet, stress, and immune challenge, on seizure outcomes. Despite human studies demonstrating that changes in the composition of the microbiota correlate with epilepsy, there is as yet little consistency in the exact microbial taxa implicated across studies. The microbiome studies in epileptic patients to date are few, underpowered, and focus largely on bacterial taxa rather than function.[345]

# Amlerova J, Šroubek J, Angelucci F, Hort J. et al have written in their paper: Epilepsy as a chronic neurological disorder is characterized by recurrent, unprovoked epileptic seizures. In about half of the people who suffer from epilepsy, the root cause of the disorder is unknown. In the other cases, different factors can cause the onset of epilepsy. In recent years, the role of gut microbiota has been recognized in many neurological disorders, including epilepsy. These data are based on studies of the gut microbiota–brain axis, a relationship starting by a dysbiosis followed by an alteration of brain functions. Interestingly, epileptic patients may show signs of dysbiosis, therefore the normalization of the gut microbiota may lead to improvement of epilepsy and to greater efficacy of anticonvulsant drugs. Human studies revealed an increased prevalence of Firmicutes in patients with refractory epilepsy. Exposure to various compounds can change

343 Quran, Chapter 23(Almuimnun), verse 97
344 Tafseer Al Qurtubi, book 3, page 317
345 Lum GR, Olson CA, Hsiao EY. Emerging roles for the intestinal microbiome in epilepsy. Neurobiol Dis. 2020 Feb;135:104576. doi: 10.1016/j.nbd.2019.104576. Epub 2019 Aug 21. PMID: 31445165.

microbiota composition, decreasing or exacerbating epileptic seizures. These include antibiotics, epileptic drugs, probiotics and ketogenic diet. Finally, we hypothesize that physical activity may play a role in epilepsy through the modulation of the gut microbiota.[346]

Here, it can be recognized that epilepsy used to be thought to be idiopathic for a decent percentage of the causative agents. now, overwhelming data are accumulating referring to the fact that epilepsy is related to gut microbiota dysbiosis.

## 6.5. Anger and paranoia are from devil

Paranoid personality disorder: is a type of personality disorder that has different behavioural trait and angry or hostile reaction to perceived slights or insults.

+Allah the only and the One GOD syas: And if an evil whisper comes to you from Shaitân (Satan), then seek refuge with Allâh. Verily, He is All-Hearer, All-Knower.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

And if a slander from the devil wound thee, then seek refuge in Allah. Lo! He is Hearer, Knower.

— Pickthall[347]

Al tabari and ibn katheer said that Alnazigh (slander) means severe anger in this verse.

+ The Most merciful the true GOD (Allah) retell the story of joseph (peace be on him): And he raised his parents to the throne and they fell down before him prostrate. And he said: "O my father! This is the interpretation of my dream aforetime! My Lord has made it come true! He was indeed good to me, when He took me out of the prison, and brought you (all here) out of the bedouin-life, after Shaitân (Satan) had sown enmity between me and my brothers. Certainly, my Lord is the Most Courteous and Kind unto whom He wills. Truly He! Only He is the All-Knowing, the All-Wise.

346 Amlerova J, Šroubek J, Angelucci F, Hort J. Evidences for a Role of Gut Microbiota in Pathogenesis and Management of Epilepsy. *Int J Mol Sci.* 2021;22(11):5576. Published 2021 May 25. doi:10.3390/ijms22115576

347 Quran, chapter 7 (Al AAraaf), verse 200

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[348]

+ The Most supreme **(Allah)** be exalted declares: And say to My slaves (i.e. the true believers of Islâmic Monotheism) that they should (only) say those words that are the best. (Because) Shaitân (Satan) verily, sows a state of conflict and disagreements among them. Surely, Shaitân (Satan) is to man a plain enemy.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[349]

+ **Narrated Sulaiman bin Surd:** While I was sitting in the company of the Prophet, two men abused each other and the face of one of them became red with anger, and his jugular veins swelled (i.e. he became furious). On that the Prophet said, "I know a word, the saying of which will cause him to relax, if he does say it. If he says: 'I seek Refuge with Allah from Satan.' then all is anger will go away." Some body said to him, "The Prophet has said, 'Seek refuge with Allah from Satan.'" The angry man said, "Am I mad?"[350]

Here, in these evidences it is clear that Bursts of Anger is from Satan. Confirming this idea is the fact that the furious person was ordered by the prophet (peace and blessings on him) to seek refuge from satan.

## What is the association between the gut microbiome and paranoia and anger bursts?

# Marwa Azab, Ph.D., has stated: Chemicals implicated in depression and happiness such as serotonin are also found in the gut; 90 percent of serotonin is manufactured in the digestive tract and not the brain. Many antidepressants work by increasing serotonin. Scientists have found that gut bacteria produce many other neurotransmitters such as dopamine, norepinephrine, acetylcholine, and GABA, which are critical for mood, anxiety, concentration, reward, and motivation. The gut microbiome can cause changes in how our brains react.

In a UCLA study, a group of healthy women with no gastrointestinal or psychiatric symptoms were randomly assigned to one of three groups: fermented milk product with probiotics "yogurt," a non-fermented milk

348 Quran, chapter 12 (Yusuf), verse 100
349 Quran, chapter 17 (Al Israa), verse 53
350 Sahih al-Bukhari , Book 59 Beginning of Creation, (11) Chapter: The characteristics of Iblis (Satan) and his soldiers, Hadith 3282

product (with a probiotic containing a consortium of five strains), or no intervention. They consumed this twice daily for four weeks.
Researchers collected brain images before and after the intervention to look for any brain changes in response to an emotional attention task. They also collected stool samples. The results were astonishing—there were significant differences in how the brains reacted during the emotional task! The group of women who consumed fermented milk for only four weeks had calmer brains during the emotional task! The no-intervention (no yogurt) group showed the opposite trend, more brain hyperactivity during the emotional task.[351]
# Jeremy Appleton, ND has written: The gut-brain axis is a bidirectional communication network that links the enteric and central nervous systems. This network is not only anatomical, but it extends to include endocrine, humoral, metabolic, and immune routes of communication as well. The autonomic nervous system, hypothalamic-pituitary-adrenal (HPA) axis, and nerves within the gastrointestinal (GI) tract, all link the gut and the brain, allowing the brain to influence intestinal activities, including activity of functional immune effector cells; and the gut to influence mood, cognition, and mental health.[352]

# Clapp M, Aurora N, Herrera L, Bhatia M, Wilen E, Wakefield S. have suggested: The bidirectional link between the brain, gut, and microbiome has come to the forefront of the medical research community in the past few years. The growing amount of evidence substantiating this link indicates it will be a valuable area for future medical and nutritional practice, and research. This review demonstrates the importance of a healthy microbiome, particularly the gut microbiota, for patients suffering from anxiety and depression, as dysbiosis and inflammation in the CNS have been linked as potential causes of mental illness. Of note, studies have shown that probiotics effectively mitigated anxiety and depressive symptoms similar to conventional prescription medications……Despite the lack of regulations, patients prescribed mood-altering drugs may benefit from concomitant use of

351 Gut Bacteria Can Influence Your Mood, Thoughts, and Brain https://www.psychologytoday.com/us/blog/neuroscience-in-everyday-life/201908/gut-bacteria-can-influence-your-mood-thoughts-and-brain?eml
352 Appleton J. The Gut-Brain Axis: Influence of Microbiota on Mood and Mental Health. Integr Med (Encinitas). 2018 Aug;17(4):28-32. PMID: 31043907; PMCID: PMC6469458.

probiotics. The dysbiosis created by the prescribed medications, or resulting from the neurological disturbance itself, may be mitigated by the introduction of beneficial gut flora in a probiotic form. Ultimately, the question that needs to be addressed is can probiotics alone fix the problem, or do they need to be used with mood stabilizers?[353]

Thus, theses research clearly indicate that mood of humans are be mutilated by the gut microbiome.

## 6.6 Grief, depression and insomnia are from satan

+ **ALLAH** the highest be exalted says: Secret counsels (conspiracies) are only from Shaitân (Satan), in order that he may cause grief to the believers. But he cannot harm them in the least, except as Allâh permits. And in Allâh let the believers put their trust.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan [354]

+ Abu Huraira reported Allah's Messenger (ﷺ) as saying: When the time draws near (when the Resurrection is near) a believer's dream can hardly be false. And the truest vision will be of one who is himself the most truthful in speech, for the vision of a Muslim is the forty-fifth part of Prophecy, and dreams are of three types: one good dream which is a sort of good tidings from Allah; the evil dream which causes pain is from the satan; and the third one is a suggestion of one's own mind; so if any one of you sees a dream which he does not like he should stand up and offer prayer and he should not relate it to people, and he said: I would love to see fetters (in the dream), but I dislike wearing of necklace, for the fetters is (an indication of) one's steadfastness in religion. The narrator said: I do not know whether this is a part of the hadith or the words of Ibn Sirin.[355]
In the Arabic version of the saying to cause pain is tahzeen which means to cause grief.

In these evidences; islam stresses that grief can be directly caused by satan. Repeted bouts of grief is the psychiatric state (disease) of depression. Also,

353 Clapp M, Aurora N, Herrera L, Bhatia M, Wilen E, Wakefield S. Gut microbiota's effect on mental health: The gut-brain axis. Clin Pract. 2017 Sep 15;7(4):987. doi: 10.4081/cp.2017.987. PMID: 29071061; PMCID: PMC5641835.
354 Quran, chapter 58 (Al mujadillah), verve 10
355 Sahih muslim, Book 42 (The Book dreams), hadith 2263a

as previously stressed out satan can alter sleep pattern and can lead to insomnia. (insomnia= sleep deprivation)

## Depression and insomnia can microbiota have a relation?

# Madison A, Kiecolt-Glaser JK. have said: The dynamic human-microbe cycle. In a complex web of interactions, psychological stress, depression, and diet independently and together help to shape the gut microbiota's composition. Stress and depression alter the gut bacteria via immune, autonomic, and endocrine signaling, while diet helps to determine which bacteria flourish. Stress and depression can provoke dysregulated eating, and conversely, diet modulates stress reactivity and mood. Thus, diet and stress can interact with one another, together governing the gut environment. In turn, the gut bacteria produce metabolites, toxins, and neurohormones. Dominant bacterial species may promote their own interests over the human's, releasing molecules that mimic appetite hormones, thereby fueling food cravings. Through this diet-mediated path, or other pathways, like the vagus nerve, the gut bacteria influence stress reactivity and mood. Ultimately, the individual's stressors, mood, and diet, coupled with their gut bacteria, can alter immune function and health. [356]

# Limbana T, Khan F, Eskander N have established: The gut microbiome serves an important role in the human body. Reportedly, one of the benefits of these microflora is on mental health. Once established, food and other dietary sources that enhance quality microbiome content in our gastrointestinal system will be a significant consideration in individuals' day to day lives. This literature review conducted a PubMed search for studies about the gut microbiome and its relation to depression. In using several Medical Subject Heading (MeSH) keywords, relevant literature was selected. A total of 26 articles were selected after applying the inclusion and exclusion criteria, and after checking the articles' accessibility. This literature would like to establish the role of the gut microbiome in depression. This study's findings showed that there is a strong association of microbiome function to mental well-being.[357]

356 Madison A, Kiecolt-Glaser JK. Stress, depression, diet, and the gut microbiota: human-bacteria interactions at the core of psychoneuroimmunology and nutrition. Curr Opin Behav Sci. 2019 Aug;28:105-110. doi: 10.1016/j.cobeha.2019.01.011. Epub 2019 Mar 25. PMID: 32395568; PMCID: PMC7213601

357 Limbana T, Khan F, Eskander N. Gut Microbiome and Depression: How Microbes Affect the Way We Think. Cureus. 2020 Aug 23;12(8):e9966. doi: 10.7759/cureus.9966. PMID: 32983670; PMCID: PMC7510518.

# Smith RP et. Al have said: The human gut microbiome can influence health through the brain-gut-microbiome axis. Growing evidence suggests that the gut microbiome can influence sleep quality. Previous studies that have examined sleep deprivation and the human gut microbiome have yielded conflicting results. A recent study found that sleep deprivation leads to changes in gut microbiome composition while a different study found that sleep deprivation does not lead to changes in gut microbiome. Accordingly, the relationship between sleep physiology and the gut microbiome remains unclear. To address this uncertainty, we used actigraphy to quantify sleep measures coupled with gut microbiome sampling to determine how the gut microbiome correlates with various measures of sleep physiology. We measured immune system biomarkers and carried out a neurobehavioral assessment as these variables might modify the relationship between sleep and gut microbiome composition. We found that total microbiome diversity was positively correlated with increased sleep efficiency and total sleep time, and was negatively correlated with wake after sleep onset. We found positive correlations between total microbiome diversity and interleukin-6, a cytokine previously noted for its effects on sleep. Analysis of microbiome composition revealed that within phyla richness of Bacteroidetes and Firmicutes were positively correlated with sleep efficiency, interleukin-6 concentrations and abstract thinking. Finally, we found that several taxa (Lachnospiraceae, Corynebacterium, and Blautia) were negatively correlated with sleep measures. Our findings initiate linkages between gut microbiome composition, sleep physiology, the immune system and cognition. They may lead to mechanisms to improve sleep through the manipulation of the gut microbiome. [358]

# Li Y et. al. have found: results: The gut microbiomes of insomnia patients compared with healthy controls were characterized by lower microbial richness and diversity, depletion of anaerobes, and short-chain fatty acid (SCFA)-producing bacteria, and an expansion of potential pathobionts. *Lachnospira* and *Bacteroides* were signature bacteria for distinguishing acute insomnia patients from healthy controls,

358 Smith RP, Easson C, Lyle SM, Kapoor R, Donnelly CP, Davidson EJ, Parikh E, Lopez JV, Tartar JL. Gut microbiome diversity is associated with sleep physiology in humans. PLoS One. 2019 Oct 7;14(10):e0222394. doi: 10.1371/journal.pone.0222394. PMID: 31589627; PMCID: PMC6779243.

while *Faecalibacterium* and *Blautia* were signature bacteria for distinguishing chronic insomnia patients from healthy controls. Acute/chronic insomnia-related signature bacteria also showed correlations with these patients' self-reported sleep quality and plasma IL-1β.

Conclusion: These findings suggest that insomnia symptomology, gut microbiota, and inflammation may be interrelated in complex ways. Gut microbiota may serve as an important indicator for auxiliary diagnosis of insomnia and provide possible new therapeutic targets in the field of sleep disorders.[359]

# Li Y, Hao Y, Fan F, Zhang B. have discussed: In summary, there is a bidirectional connection between the gut microbiome and sleep and depression. Inflammation and endocrine hormones play important roles in this process. First, chronic disturbances of host circadian rhythms, sleep loss, and depression have an impact in the metabolism of indigenous gut bacteria and trigger changes in their composition, typically reducing the total number of organisms of the Lactobacillaceae family but increasing the populations of Bacteroides multiforme, Enterococci, the Lachnospiraceae, and the Ruminococcaceae, which causes microbial dysbiosis. Second, gut bacteria can modulate the tight junctions between epithelial cells that reduce intestinal permeability and protect the intestinal barrier. Breakdown of the epithelial barrier can cause bacteria and their harmful metabolites to enter the mesenteric lymph tissue, stimulate inflammatory immune reactions and excite the vagus and spinal afferent nerves. One possible mechanism for this process may be the inflammatory reactions induced by gut microbiome dysbiosis, which result in abnormal immune reactions and further influence the CNS, causing or aggravating insomnia and depression and driving metabolic disease.

Moreover, the intestinal microbiota interact with the clock genes in many ways. However, further study is required to determine how the rhythmic activity of the intestinal microbiota participates in the circadian rhythm

359 Li Y, Zhang B, Zhou Y, Wang D, Liu X, Li L, Wang T, Zhang Y, Jiang M, Tang H, Amsel LV, Fan F, Hoven CW. Gut Microbiota Changes and Their Relationship with Inflammation in Patients with Acute and Chronic Insomnia. Nat Sci Sleep. 2020 Nov 5;12:895-905. doi: 10.2147/NSS.S271927. PMID: 33177907; PMCID: PMC7652227.

control network of the intestine or the whole body. Additional research is also required to determine how rhythmic oscillations and functional activities are coordinated between the host and microbes.[360]

The fact that can be concluded from these research and reviews is that there is a direct implication of Microbiome on depression and insomnia.

## 6.7. Other mood changes: fear and anxiety

+ **ALLAH** the majesty stated: Those of you who turned back on the day the two hosts met (i.e. the battle of Uhud), it was Shaitân (Satan) who caused them to backslide (run away from the battlefield) because of some (sins) they had earned. But Allâh, indeed, has forgiven them. Surely, Allâh is Oft-Forgiving, Most Forbearing.

Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[361]

+ **ALLAH** the most great has told us: That is only Satan who frightens [you] of his supporters. So, fear them not, but fear Me, if you are [indeed] believers.

Saheeh International[362]

+ **Narrated Abu Qatada:** The Prophet (ﷺ) said, "A good dream is from Allah, and a bad or evil dream is from Satan; so, if anyone of you has a bad dream of which he gets afraid, he should spit on his left side and should seek Refuge with Allah from its evil, for then it will not harm him." [363]

+ **Narrated Abu Huraira:** Allah's Messenger (ﷺ) said, "When the Day of Resurrection approaches, the dreams of a believer will hardly fail to come true, and a dream of a believer is one of forty-six parts of prophetism, and whatever belongs to prothetism can never be false." Muhammad bin Seereen said, "But I say this." He said, "It used to be said, 'There are three types of dreams: The reflection of one's thoughts and experiences one has during wakefulness, what is suggested by Satan to frighten the dreamer, or glad tidings from Allah. So, if someone has a dream which he dislikes, he should not tell it to others, but get up and offer a prayer.[364]

360 Li Y, Hao Y, Fan F, Zhang B. The Role of Microbiome in Insomnia, Circadian Disturbance and Depression. Front Psychiatry. 2018 Dec 5;9:669. doi: 10.3389/fpsyt.2018.00669. PMID: 30568608; PMCID: PMC6290721

361 Quran, Chapter 3 (Al Imraan), verse no 155

362 Quran, Chapter 3 (Al Imraan), verse no 175

363 Sahih Albukhari, Book 59 (Beginning of Creation), (11) Chapter: The characteristics of Iblis (Satan) and his soldiers, hadith 3292

364 Sahih Albukhari, Book 91 (interpretation of dreams), (26) Chapter: (Seeing) oneself fettered in a dream, hadith 7017

Within these afromentioned verses and syaings, one can conclude that satan cause the sense of fear by direct and indirect means. Repeted fear is called phobia.

#A phobia is a type of anxiety disorder. It is a strong, irrational fear of something that poses little or no actual danger. There are many specific phobias. Acrophobia is a fear of heights.[365]

Panic attacks= anxiety

**The human microbiome and the sensation of fear:**

# Yang B, Wei J, Ju P, Chen J. have found: We find that more than half of the studies included showed it was positive to treat anxiety symptoms by regulation of intestinal microbiota. There are two kinds of interventions (probiotic and non-probiotic interventions) to regulate intestinal microbiota, and it should be highlighted that the non-probiotic interventions were more effective than the probiotic interventions. More studies are needed to clarify this conclusion since we still cannot run meta-analysis so far.[366]

# Simpson CA, Diaz-Arteche C, Eliby D, Schwartz OS, Simmons JG, Cowan CSM. have stressed out the following findings: Growing evidence indicates the community of microorganisms throughout the gastrointestinal tract, (i.e., gut microbiota), is associated with anxiety and depressive disorders. We present the first systematic review of the gut microbiota in anxiety disorders, along with an update in depression. Consideration of shared underlying features is essential due to the high rates of comorbidity. Systematic searches, following PRISMA guidelines, identified 26 studies (two case-control comparisons of the gut microbiota in generalised anxiety disorder, 18 in depression, one incorporating both anxiety/depression, and five including symptom-only measures). Alpha and beta diversity findings were inconsistent; however, differences in bacterial taxa indicated disorders may be characterised by a higher abundance of proinflammatory species (e.g., Enterobacteriaceae and Desulfovibrio), and lower short-chain fatty acid producing-bacteria (e.g., Faecalibacterium). Several taxa, and

365 https://www.mentalhealth.gov/what-to-look-for/anxiety-disorders/phobias in 3/1/2022

366 Yang B, Wei J, Ju P, Chen J. Effects of regulating intestinal microbiota on anxiety symptoms: A systematic review. Gen Psychiatr. 2019 May 17;32(2):e100056. doi: 10.1136/gpsych-2019-100056. PMID: 31179435; PMCID: PMC6551444.

their mechanisms of action, may relate to anxiety and depression pathophysiology via communication of peripheral inflammation to the brain. Although the gut microbiota remains a promising target for prevention and therapy, future research should assess confounders, particularly diet and psychotropic medications, and should examine microorganism function. [367]

Within the context of the above data, anyone can conclude that Gut Microbes are the cause of Anxiety and excessive fear in humans.

## 6.8. Satan (microbiota) orders people inadvertently:

+ **Allah** the most high be exalted has retold: Adding, "Do you see this one you honoured above me? If you delay my end until the Day of Judgment, I will certainly take hold of his descendants, except for a few." 62

— Dr. Mustafa Khattab, the Clear Quran

and [then] said, 'You see this being You have honoured above me? If You reprieve me until the Day of Resurrection, I will lead all but a few of his descendants by the nose.'62

— Abdul Haleem

And incite whoever you can of them with your voice, mobilize against them all your cavalry and infantry, manipulate them in their wealth and children, and make them promises." But Satan promises them nothing but delusion. 64

— Dr. Mustafa Khattab, the Clear Quran [368]

The Arabic for (I will lead all) is Ahtanikana: is to take hold (control) of the horse by the bridle. This verse is a direct evidence that satan can take hold of the human behavior.

+ In other veses my GOD Allah the most generous says: Verily, I will mislead them, and surely, I will arouse in them false desires; and certainly, I will order them to slit the ears of cattle, and indeed I will order them to change the nature created by Allâh." And whoever takes Shaitân (Satan) as a Walî (protector or helper) instead of Allâh, has surely suffered a manifest loss. verse 119

367 Simpson CA, Diaz-Arteche C, Eliby D, Schwartz OS, Simmons JG, Cowan CSM. The gut microbiota in anxiety and depression - A systematic review. Clin Psychol Rev. 2021 Feb;83:101943. doi: 10.1016/j.cpr.2020.101943. Epub 2020 Oct 29. PMID: 33271426.

368 Quran, Chapter 17 (Al Israa"), verse no. 62 and 64

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

He [Shaitân (Satan)] makes promises to them, and arouses in them false desires; and Shaitân's (Satân) promises are nothing but deceptions. Verse 120

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[369]

+ Allah the Almighty says: He (the father) said: "O my son! Relate not your vision to your brothers, lest they should arrange a plot against you. Verily! Shaitân (Satan) is to man an open enemy!

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[370]

+ My God **Allah** the All knower syas: Say (O Muhammad صلى الله عليه وسلم): "Shall we invoke others besides Allâh (false deities), that can do us neither good nor harm, and shall we turn back on our heels after Allâh has guided us (to true Monotheism)? - like one whom the Shayâtîn (devils) have made to go astray in the land in confusion, his companions calling him to guidance (saying): 'Come to us.' " Say: "Verily, Allâh's Guidance is the only guidance, and we have been commanded to submit (ourselves) to the Lord of the 'Âlamîn (mankind, jinn and all that exists);

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[371]

Allah the most merciful states: Do you not see that We have sent the devils upon the disbelievers, inciting them [to evil] with [constant] incitement?

— Saheeh International[372]

In these verses one can extract the fact that satan can take hold of the human behavior. Also, that he incites to order humans secretely which helps to shape the human behavior. This means that those condition in which the persons can not control their behaviours are from satan.

## The Human behavior and the microbiome:

# Timothy G. et al have postulated: The human gut harbors a dynamic and complex microbial ecosystem, consisting of approximately 1 kg of bacteria in the average adult, approximately the weight of the human brain. The evolutionary formation of a complex gut microbiota in mammals has

369 Quran, Chapter 4 (Al Nisaa), verse no. 119-120
370 Quran, Chapter 12 (yusuf), verse no. 5
371 Quran, Chapter 6 (Al Anaam), verse no. 165
372 Quran, Chapter 19(Maryam), verse no. 83

played an important role in enabling brain development and perhaps sophisticated social interaction. Genes within the human gut microbiota, termed the microbiome, significantly outnumber human genes in the body, and are capable of producing a myriad of neuroactive compounds. Gut microbes are part of the unconscious system regulating behavior. Recent investigations indicate that these microbes majorly impact on cognitive function and fundamental behavior patterns, such as social interaction and stress management. In the absence of microbes, underlying neurochemistry is profoundly altered. Studies of gut microbes may play an important role in advancing understanding of disorders of cognitive functioning and social interaction, such as autism. [373]

# Sampson TR, Mazmanian SK have reached the following statement: While microbiologists have understood for decades that microbes can alter the hosts' behavior in various invertebrate and vertebrate systems, it is only in the last five years that other scientific communities have begun to appreciate the potential scale and depth by which commensal microbes affect complex neurological function in mammals. A handful of molecular mechanisms that control these interactions have been identified; however, the field is poised to make great strides in understanding this new paradigm based on growing awareness of the gut-microbiome-brain axis. Multi-disciplinary collaborations between microbiologists, immunologists, neuroscientists and bioinformaticians will continue to drive discovery into how symbiotic microbes function to shape our brains and behaviors, and how we may exploit these organisms to combat neurological diseases. Neurodevelopmental, psychiatric and neurodegenerative disorders represent some of the most serious medical and societal burdens of our time; yet the etiology of most disorders of the brain remain unknown and therapies are largely either ineffective or have severe side effects. New concepts and therapeutic modalities are desperately needed to explain and address many neurological conditions. It appears that future discoveries in the neurosciences will not solely rely on studying the brain, but

373 Timothy G. Dinan, Roman M. Stilling, Catherine Stanton, John F. Cryan, Collective unconscious: How gut microbes shape human behavior, Journal of Psychiatric Research, Volume 63, 2015, Pages 1-9, ISSN 0022-3956, https://doi.org/10.1016/j.jpsychires.2015.02.021.

surprisingly through exploration of a forgotten organ with similar size and complexity—the human microbiome. [374]

# Alcock J, Maley CC, Aktipis CA have suggested: Modern biology suggests that our bodies are composed of a diversity of organisms competing for nutritional resources. Evolutionary conflict between the host and microbiota may lead to cravings and cognitive conflict with regard to food choice. Exerting self-control over eating choices may be partly a matter of suppressing microbial signals that originate in the gut. Acquired tastes may be due to the acquisition of microbes that benefit from those foods. Our review suggests that one way to change eating behavior is by intervening in our microbiota.[375]

# Quagliariello Andrea, Del Chierico Federica, Russo Alessandra, Reddel Sofia, Conte Giulia, Lopetuso Loris R., Ianiro Gianluca, Dallapiccola Bruno, Cardona Francesco, Gasbarrini Antonio, Putignani Lorenza, have reched the following statement: Pediatric acute-onset neuropsychiatric syndrome (PANS) and pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections syndrome (PANDAS) are conditions that impair brain normal neurologic function, resulting in the sudden onset of tics, obsessive-compulsive disorder, and other behavioral symptoms. Recent studies have emphasized the crosstalk between gut and brain, highlighting how gut composition can influence behavior and brain functions. Thus, the present study investigates the relationship between PANS/PANDAS and gut microbiota ecology. The gut composition of a cohort of 30 patients with PANS/PANDAS was analyzed and compared to control subjects using 16S rRNA-based metagenomics. Data were analyzed for their α- and β-diversity; differences in bacterial distribution were detected by Wilcoxon and LEfSe tests, while metabolic profile was predicted via PICRUSt software. These analyses demonstrate the presence of an altered bacterial community structure in PANS/PANDAS patients with respect to controls. In particular, ecological analysis revealed the presence of two main clusters of subjects based on age range…….....

374 Sampson TR, Mazmanian SK. Control of brain development, function, and behavior by the microbiome. Cell Host Microbe. 2015 May 13;17(5):565-76. doi: 10.1016/j.chom.2015.04.011. PMID: 25974299; PMCID: PMC4442490.

375 Alcock J, Maley CC, Aktipis CA. Is eating behavior manipulated by the gastrointestinal microbiota? Evolutionary pressures and potential mechanisms. Bioessays. 2014 Oct;36(10):940-9. doi: 10.1002/bies.201400071. Epub 2014 Aug 8. PMID: 25103109; PMCID: PMC4270213.

In conclusion, this study suggests that streptococcal infections alter gut bacterial communities leading to a pro-inflammatory status through the selection of specific bacterial strains associated with gut inflammation and immune response activation. These findings highlight the possibility of studying bacterial biomarkers associated with this disorder and might led to novel potential therapeutic strategies. [376]

# WT. Lee, LC. Wong. Have witten the following: Conclusions: We found the decreased prevalence of Prevotella and increased prevalence of Ruminococcus in children with TS(Tourette syndrome). The proportion of Prevotella was also negatively correlated with the severity of tics. Further population-based study may clarify the role of gut microbiota in the pathogenesis of TS. [377]

#Tourette (too-RET) syndrome is a disorder that involves repetitive movements or unwanted sounds (tics) that can't be easily controlled. For instance, you might repeatedly blink your eyes, shrug your shoulders or blurt out unusual sounds or offensive words.[378]

It is evident that the gut microbes affect the human behaviour and helps to shape it. Moreover, there are certain conditions like Tourette syndrome that are closely related to the gut microbiota. These conditions have symptoms of uncontrolled behaviors.

## 6.9. Madness (Insanity) and devils and Jinn:

+ **Allah** the absolutely pure says: Do they not reflect? There is no madness in their companion (Muhammad صلى الله عليه وسلم). He is but a plain warner. — Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

Have they not bethought them (that) there is no madness in their comrade? He is but a plain warner. — Pickthall [379]

376 Quagliariello Andrea, Del Chierico Federica, Russo Alessandra, Reddel Sofia, Conte Giulia, Lopetuso Loris R., Ianiro Gianluca, Dallapiccola Bruno, Cardona Francesco, Gasbarrini Antonio, Putignani Lorenza, Gut Microbiota Profiling and Gut–Brain Crosstalk in Children Affected by Pediatric Acute-Onset Neuropsychiatric Syndrome and Pediatric Autoimmune Neuropsychiatric Disorders Associated With Streptococcal Infections, Frontiers in Microbiology,9, 2018, 675, URL=https://www.frontiersin.org/article/10.3389/fmicb.2018.00675, DOI=10.3389/fmicb.2018.00675, ISSN=1664-302X

377 WT. Lee, LC. Wong. Alterations of the intestinal microbiota were correlated with the severity of Tourette syndrome in children [abstract]. Mov Disord. 2018; 33 (suppl 2). https://www.mdsabstracts.org/abstract/alterations-of-the-intestinal-microbiota-were-correlated-with-the-severity-of-tourette-syndrome-in-children/. Accessed August 29, 2021.

378 https://www.mayoclinic.org/diseases-conditions/tourette-syndrome/symptoms-causes/syc-20350465

379 Quran, Chapter7 (Al Aaraaf), verse 184

+ **Allah** the majestic has said: (And they say: "O you (Muhammad صلى الله عليه و سلم) to whom the Dhikr (the Qur'ân) has been sent down! Verily, you are a mad man! — Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan
And they say: O thou unto whom the Reminder is revealed, lo! thou art indeed a madman! — Pickthall
They say: "O thou to whom the Message is being revealed! truly thou art mad (or possessed)! — Yusuf Ali) [380]
+ **Allah** the guardian says: ("He is only a man in whom is madness, so wait for him a while." — Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan
He is only a man in whom is a madness, so watch him for a while.
— Pickthall
(And some said): "He is only a man possessed: wait (and have patience) with him for a time." — Yusuf Ali
He is not but a man possessed with madness, so wait concerning him for a time." — Saheeh International ) [381]
+ **Allah** the most and the only supreme says: (Or say they: There is madness in him? Nay, but he brought them the truth [i.e. Tauhîd: Worshipping Allâh Alone in all aspects, the Qur'ân and the religion of Islâm], but most of them (the disbelievers) are averse to the truth. — Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan
Or say they: There is a madness in him? Nay, but he bringeth them the Truth; and most of them are haters of the Truth.— Pickthall
Or do they say, "He is possessed"? Nay, he has brought them the Truth, but most of them hate the Truth. — Yusuf Ali
Or do they say, "In him is madness"? Rather, he brought them the truth, but most of them, to the truth, are averse. — Saheeh International ) [382]

+ **Allah** the provider has says: (Hath he invented a lie concerning Allah, or is there in him a madness? Nay, but those who disbelieve in the Hereafter are in torment and far error. — Pickthall
"Has he invented a falsehood against Allah, or has a spirit (seized) him?"- Nay, it is those who believe not in the Hereafter, that are in (real) Penalty, and in farthest error. — Yusuf Ali

380 Quran, Chapter 15 (Al Hijr), verse 6
381 Quran, Chapter 23 (Al mu'minun), verse 25
382 Quran, Chapter 23 (Al Mu'minun), verse 70

Has he invented about Allah a lie or is there in him madness?" Rather, they who do not believe in the Hereafter will be in the punishment and [are in] extreme error. — Saheeh International)[383]

+ **Allah** the all knower says: (And in Mûsâ (Moses) (too, there is a sign), when We sent him to Fir'aun (Pharaoh) with a manifest authority. 38, But [Fir'aun (Pharaoh)] turned away (from Belief in might) along with his hosts, and said: "A sorcerer, or a madman." 39 — Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

And in Moses (too, there is a portent) when We sent him unto Pharaoh with clear warrant,38, But he withdrew (confiding) in his might, and said: A wizard or a madman. 39 — Pickthall

And in Moses (was another Sign): Behold, We sent him to Pharaoh, with authority manifest. 38, But (Pharaoh) turned back with his Chiefs, and said, "A sorcerer, or one possessed!" 39 — Yusuf Ali

And in Moses [was a sign], when We sent him to Pharaoh with clear authority.38 But he turned away with his supporters and said, "A magician or a madman." 39 — Saheeh International ) [384]

+ **Narrated Sulaiman bin Surd:** While I was sitting in the company of the Prophet, two men abused each other and the face of one of them became red with anger, and his jugular veins swelled (i.e. he became furious). On that the Prophet said, "I know a word, the saying of which will cause him to relax, if he does say it. If he says: 'I seek Refuge with Allah from Satan.' then all is anger will go away." Some body said to him, "The Prophet has said, 'Seek refuge with Allah from Satan.'" The angry man said, "Am I mad?" [385]

The clear and logical reasoning from the verses and the hadith is that allah the most supreme has cited that those who were possessed were described as madmen in different eras (times). This is most evident as pharo, the people of noah and the people of the prophet mohammed (pbbh) has said that their prophets are mad or possessed by jinn as it is clear in the Arabic

383 Quran, Chapter 34 (saba'), verse 8
384 Quran, Chapter 51(ADH-Dhariayt), verses38-39
385Sahih al-Bukhari , Book 59: Beginning of Creation, (11) Chapter: The characteristics of Iblis (Satan) and his soldiers, Hadith 3282

language. The concept of madness being caused by jinns is further concreted by the above hadith as the prophet has asked the angry man to seek refuge from satan. Then he replied that he is not mad or possessed. Then, in conclusion satan can have an effect on psychiatric diseases.

### Microbiota and madness

# Rogers GB, Keating DJ, Young RL, Wong ML, Licinio J, Wesselingh S. have discussed: Evidence is now emerging that, through interactions with the gut–brain axis, the bidirectional communication system between the central nervous system and the gastrointestinal tract, the gut microbiome can also influence neural development, cognition and behaviour, with recent evidence that changes in behaviour alter gut microbiota composition, while modifications of the microbiome can induce depressive-like behaviours. Although an association between enteropathy and certain psychiatric conditions has long been recognized, it now appears that gut microbes represent direct mediators of psychopathology. Here, we examine roles of gut microbiome in shaping brain development and neurological function, and the mechanisms by which it can contribute to mental illness. 386

It has been evidence that gut microbiota dysbiosis has an effect of the brain via the gut brain axis. It has been also evident that different psychiatric diseases have been linked to gut microbiota via the afromentioned mechanism.

## 6.10. The earful (revelation, buzz, chatter and inspiration) of devil:

+ **Allah** the only and the lonely God that is worthy to be worshiped has stated: And so We have appointed for every Prophet enemies - Shayâtîn (devils) among mankind and jinn, inspiring one another with adorned speech as a delusion (or by way of deception). If your Lord had so willed, they would not have done it; so leave them alone with their fabrications. (Tafsîr Qurtubi)

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

386 Rogers GB, Keating DJ, Young RL, Wong ML, Licinio J, Wesselingh S. From gut dysbiosis to altered brain function and mental illness: mechanisms and pathways. Mol Psychiatry. 2016 Jun;21(6):738-48. doi: 10.1038/mp.2016.50. Epub 2016 Apr 19. PMID: 27090305; PMCID: PMC4879184.

Thus have We appointed unto every prophet an adversary - devils of humankind and jinn who inspire in one another plausible discourse through guile. If thy Lord willed, they would not do so; so leave them alone with their devising;

— Pickthall [387]

+ Allah the most supreme sayas: Do not eat of what is not slaughtered in Allah's Name. For that would certainly be ˹an act of˺ disobedience. Surely the devils whisper to their ˹human˺ associates to argue with you.[1] If you were to obey them, then you ˹too˺ would be polytheists.

— Dr. Mustafa Khattab, the Clear Quran

And do not eat of that upon which the name of Allāh has not been mentioned, for indeed, it is grave disobedience. And indeed do the devils inspire their allies [among men] to dispute with you. And if you were to obey them, indeed, you would be associators [of others with Him].[1]

— Saheeh International[388]

One can postulate that each of the humans and jinns can inspire to each other with a heared voice. This means that some people can hear the voice from their attache and from other jinns. This is affirmed by the fact that inspirations of the prophets are a kind of talk where the prophet can hear. Therefore, satan inspiration is a kind of voice that is heared only by that human. Hearing voices other than those emitted (projected) by the humans and their animals are called auditory hallucinations.

#Auditory hallucinations are among the most common type of hallucination. You might hear someone speaking to you or telling you to do certain things. The voice may be angry, neutral, or warm.[389]

# Flavie Waters, Charles Fernyhough et al. found: Auditory hallucinations, or "hearing voices," is one of the most prevalent symptoms of schizophrenia, reported by as many as 75% of patients.[1] It is also seen in other psychiatric conditions, such as bipolar and unipolar

387 Quran, Chapter 6 (Al Anaam), verse 112

388 Quran, Chapter 6 (Al Anaam), verse 112

389 https://www.healthline.com/health/hallucinations?c=1168361230843#types on 14/1/2022.

depression and personality disorders, as well as in non-clinical populations.[390]

This means that schizophrenia and auditory hallucinations can be linked to satan.

## The Microbiota and its role in schizophrenia:

# Szeligowski T, Yun AL, Lennox BR, Burnet PWJ. Have discussed the following: The existing evidence for dysbiosis as a factor in the pathogenesis of schizophrenia is underwhelming. None of the available studies are prospective, making causal relationships unfeasible, and the data is plagued with methodological inconsistencies. However, if future studies confirm that dysbiosis predicts schizophrenia, then it could link a number of observations in schizophrenia patients, such as raised inflammatory markers or altered BDNF and kynurenate levels, and thus contribute to the increasingly complex picture of its etiology. Despite limited evidence, there is promise in the use of pre/probiotics as auxiliary treatments in schizophrenia, aimed at improving side-effects of antipsychotics and complementing their action, particularly in terms of cognitive impairments. Overall, we should look with anticipation toward new studies published in this field.[391]

# Patrono, E., Svoboda, J. & Stuchlík, A have postulized: Researchers have begun investigating functional crosstalk between NMDARs and GABAergic neurons associated with schizophrenia at different resolutions.

In another direction, the gut microbiota is getting increasing interest from neuroscientists. Recent findings have highlighted the role of a gut-brain axis, with the gut microbiota playing a crucial role in several psychopathologies, including schizophrenia and autism.

There have also been investigations into potential therapies aimed at normalizing altered microbiota signaling to the enteric nervous system (ENS) and the central nervous system (CNS). Probiotics diets and fecal microbiota transplantation (FMT) are currently the most common therapies. Interestingly, in rodent models of binge feeding, optogenetic

390 Flavie Waters, Charles Fernyhough, Hallucinations: A Systematic Review of Points of Similarity and Difference Across Diagnostic Classes, Schizophrenia Bulletin, Volume 43, Issue 1, 1 January 2017, Pages 32–43, https://doi.org/10.1093/schbul/sbw132

391 Szeligowski T, Yun AL, Lennox BR, Burnet PWJ. The Gut Microbiome and Schizophrenia: The Current State of the Field and Clinical Applications. Front Psychiatry. 2020 Mar 12;11:156. doi: 10.3389/fpsyt.2020.00156. PMID: 32226399; PMCID: PMC7080964.

applications have been shown to affect gut colony sensitivity, thus increasing colonic transit. [392]

The above researchers confirm that schizophrenia is related to a dysbiosis in gut microbiota. Moreover, they've added that latter disease's symptoms can be modified using probiotics (active live bacteria).

## 6.11. Obsession and devil:

+ Allah the most supreme says: (From the evil of the sneaking whisperer, — Pickthall)[393]

**+ Narrated Abu Huraira:** Allah's Messenger (ﷺ) said, "When the Adhan is pronounced Satan takes to his heels and passes wind with noise during his flight in order not to hear the Adhan. When the Adhan is completed, he comes back and again takes to his heels when the Iqama is pronounced and after its completion, he returns again till he whispers into the heart of the person (to divert his attention from his prayer) and makes him remember things which he does not recall to his mind before the prayer and that causes him to forget how much he has prayed."[394]

The Arabic term for the whisperer is al waswas which means the one which whispers repeatedly. It is also evident that while a person prays, he or she will be urged to remember things by satan. This is only a temporary issue. If that satan gains more power on the companion then the person will be manipulated on a continuos base by satan. These repeated obsessions are called OCD. Therefore, we get the result that ocd is caused by satan.

# Obsessive-compulsive disorder (OCD) is a disorder in which people have recurring, unwanted thoughts, ideas or sensations (obsessions) that make them feel driven to do something repetitively (compulsions).[395]

## Microbiome and OCD:

# Turna J, Grosman Kaplan K, Anglin R, Van Ameringen M. (2015) have recorded: The gut microbiome has become a topic of major interest as of late, with a new focus specifically on psychiatric disorders. Recent studies have revealed that variations in the composition of the gut microbiota may

392 Patrono, E., Svoboda, J. & Stuchlík, A. Schizophrenia, the gut microbiota, and new opportunities from optogenetic manipulations of the gut-brain axis. *Behav Brain Funct* **17,** 7 (2021). https://doi.org/10.1186/s12993-021-00180-2

393 Quran, chapter 114 (An Nas), verse 4

394 Sahih Al Bukhari, (10) Call to Prayers (Adhaan), (4) Chapter: Superiority of the Adhan, hadith 608

395 https://psychiatry.org/patients-families/obsessive-compulsive-disorder/what-is-obsessive-compulsive-disorder

influence anxiety and mood and vice versa. Keeping the concept of this bidirectional ""“microbiota-gut-brain”"" axis in mind, this review aims to shed light on how these findings may also be implicated in obsessive-compulsive disorder (OCD); potentially outlining a novel etiological pathway of interest for future research in the field.[396]

# Rees JC. Have shedded the light on: Obsessive-compulsive disorder (OCD) is a debilitating disorder for which the cause is not known and treatment options are modestly beneficial. A hypothesis is presented wherein the root cause of OCD is proposed to be a dysfunction of the gut microbiome constituency resulting in a susceptibility to obsessional thinking. Both stress and antibiotics are proposed as mechanisms by which gut microbiota are altered preceding the onset of OCD symptomology. In this light, pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections (PANDAS) leading to episodic OCD is explained not by group A beta-hemolytic streptococcal infections, but rather by prophylactic antibiotics that are administered as treatment. Further, stressful life events known to trigger OCD, such as pregnancy, are recast to show the possibility of altering gut microbiota prior to onset of OCD symptoms. Suggested treatment for OCD would be the directed, specie-specific (re)introduction of beneficial bacteria modifying the gut microbiome, thereby ameliorating OCD symptoms. Special considerations should be contemplated when considering efficacy of treatment, particularly the unhealthy coping strategies often observed in patients with chronic OCD that may need addressing in conjunction with microbiome remediation.[397]

# Turna J, Grosman Kaplan K, Anglin R, Patterson B, Soreni N, Bercik P, Surette MG, Van Ameringen M. (2020) have found the following: **Results:** Compared to controls, the OCD group presented lower species richness/evenness (α-diversity, Inverse Simpson) and lower relative abundance of three butyrate producing genera (Oscillospira, Odoribacter and Anaerostipes). Compared to controls, mean CRP, but not IL-6 and TNF-α, was elevated OCD patients. CRP revealed moderate to strong

396 Turna J, Grosman Kaplan K, Anglin R, Van Ameringen M. ""“HAT” BUGGING THE GUT IN OCD?""“A REVIEW OF THE GUT MICROBIOME IN OBSESSIVE-COMPULSIVE DISORDER. Depress Anxiety. 2016 Mar;33(3):171-8. doi: 10.1002/da.22454. Epub 2015 Dec 2. PMID: 26629974.

397 Rees JC. Obsessive-compulsive disorder and gut microbiota dysregulation. Med Hypotheses. 2014 Feb;82(2):163-6. doi: 10.1016/j.mehy.2013.11.026. Epub 2013 Dec 1. PMID: 24332563.

associations with psychiatric symptomatology. **Conclusion:** To our knowledge, this is the first investigation of the gut microbiome in OCD. In addition, our findings lend further support for the potential association of inflammation and OCD. These results suggest the gut microbiome may be a potential pathway of interest for future OCD research. [398]

Therefore, OCD may be directly related to gut dysbiosis.

## 6.12. Heart diseases (physical) are from satan:

+ **Allah** the Most great Says: When Our Torment reached them, why then did they not humble themselves (believe with humility)? But their hearts became hardened, and Shaitân (Satan) made fair-seeming to them that which they used to do [399].

+ **Allah** the Most great Says: That He (Allâh) may make what is thrown in by Shaitân (Satan) a trial for those in whose hearts is a disease (of hypocrisy and disbelief) and whose hearts are hardened. And certainly, the Zalimûn (polytheists and wrong-doers) are in an opposition far-off (from the truth against Allâh's Messenger and the believers).[400]

+ **Allah** the Most great Says: And he entered the city at a time of unawareness of its people: and he found there two men fighting, - one of his party (his religion - from the Children of Israel), and the other of his foes. The man of his (own) party asked him for help against his foe, so Mûsâ (Moses) struck him with his fist and killed him. He said: "This is of Shaitan's (Satan) doing: verily, he is a plain misleading enemy."[401]

+ **Allah** (the greatest and the most hight my beloved and most merciful Lord) has told us: That is because they believed, and then disbelieved; therefore their hearts are sealed, so they understand not.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[402]

398 Turna J, Grosman Kaplan K, Anglin R, Patterson B, Soreni N, Bercik P, Surette MG, Van Ameringen M. The gut microbiome and inflammation in obsessive-compulsive disorder patients compared to age- and sex-matched controls: a pilot study. Acta Psychiatr Scand. 2020 Oct;142(4):337-347. doi: 10.1111/acps.13175. Epub 2020 May 18. PMID: 32307692.

399 AlQuran, chapter Al Anaam (6), verse 43

400 AlQuran, chapter Al Hajj (22), verse 53

401 AlQuran, chapter Al Qasas (28), verse 15

402 AlQuran, chapter Al Munafiqun (63), verse 3

+**Allah** his majesty the most great and high has said: Nay! But on their hearts is the Rân (covering of sins and evil deeds) which they used to earn.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan [403]

**+ It is narrated on the authority of Hudhaifa:**

We were sitting in the company of Umar and he said: Who amongst you has heard the Messenger of Allah (ﷺ) talking about the turmoil? Some people said: It is we who heard it. Upon this be remarked: Perhaps by turmoil you presume the unrest of man in regard to his household or neighbour, they replied: Yes. He ('Umar) observed: Such (an unrest) would be done away with by prayer, fasting and charity. But who amongst you has heard from the Apostle (ﷺ) describing that turmoil which would come like the wave of the ocean? Hudhaifa said: The people hushed into silence, I replied: It is I. He ('Umar) said: Ye, well, your father was also very pious. Hudhaifa said: I heard the Messenger of Allah (may peace be, upon him) observing: Temptations will be presented to men's hearts as reed mat is woven stick by stick and any heart which is impregnated by them will have a black mark put into it, but any heart which rejects them will have a white mark put in it. The result is that there will become two types of hearts: one white like a white stone which will not be harmed by any turmoil or temptation, so long as the heavens and the earth endure; and the other black and dust-coloured like a vessel which is upset, not recognizing what is good or rejecting what is abominable, but being impregnated with passion. Hudhaifa said: I narrated to him ('Umar): There is between you and that (turmoil) a closed door, but there is every likelihood of its being broken. 'Umar said: Would it be broken? You have, been rendered fatherless. Had it been opened; it would have been perhaps closed also. I said: No, it would be broken, and I narrated to him: Verily that door implies a person who would be killed or die. There is no mistake in this hadith. Abu Khalid narrated: I said to Sa'd, O Abu Malik, what do you mean by the term" Aswad Murbadda"? He replied: High degree of whiteness in blackness. I said: What is meant by" Alkoozu Mujakhiyyan"? He replied: A vessel turned upside down.[404]

403 AlQuran, chapter Al Mutaffifin (83), verse 14

404 The Book of Faith (1), Chapter: Clarifying that Islam started as something strange, and will revert to being something strange, and it will retreat between the two Masajid (65), Sahih Muslim 144a

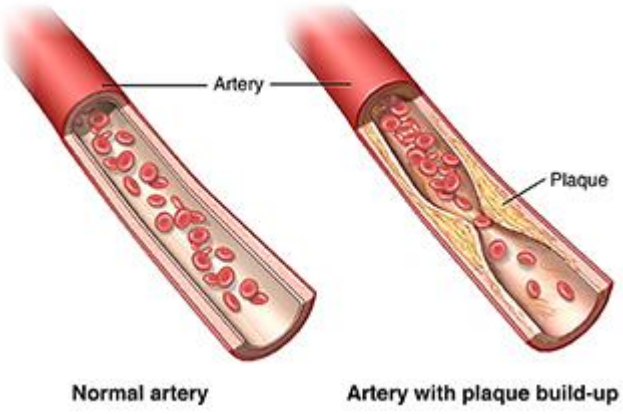
One can assume that the cause of the hardening of the heart is Satan. Since most of the temptations and tribulations are from Satan. Also, what Satan throws into the heart, God makes them temptations. God has made it clear that temptation and its acceptance by the heart and acting upon it hardens the heart. Furthermore, as mentioned before, taking the path of the devil will lead to various results such as hardening of the heart

+ Allah my Lord the Almighty says: Even then your hearts became hardened like a rock or even harder, for some rocks gush rivers; others split, spilling water; while others are humbled in awe of Allah. And Allah is never unaware of what you do.

— Dr. Mustafa Khattab, the Clear Quran[405]

In the verse, the heart is like a stone because of its hardness. We can conclude that the hard core of the hardened heart contains substances similar to those found in stone.

# Johnhopkinsmedicine.org has written: Atherosclerosis thickening or hardening of the arteries. It is caused by a buildup of plaque in the inner lining of an artery.




Plaque is made up of deposits of fatty substances, cholesterol, cellular waste products, calcium, and fibrin. As it builds up in the arteries, the artery walls become thickened and stiff.

Atherosclerosis is a slow, progressive disease that may start as early as childhood. However, it can progress rapidly.[406]

This means that atherosclerosis and heart diseases are caused by satan.

405 Al Quran, chapter 2 Al Baqarah, verse 74

406 https://www.hopkinsmedicine.org/health/conditions-and-diseases/atherosclerosis

## Gut Micorbiota and heart diseases:

# Kazemian, N., Mahmoudi, M., Halperin, F. *et al.* have stated: Gut microbiota can directly affect hypercholesterolemia and CAD (coronary artery diseases) development via metabolite production such as bile acids, coprostanol, short chain fatty acids, and tri- methylamine-N-oxide production.

Conclusions

To fully understand the role of gut microbiota in human health and to guide therapeutic interventions for hyper- cholesterolemia and CAD development, it is critical that we elucidate the interconnected bodily factors that work together to affect gut microbiota and disease development. Further investigations into these complex mechanisms (e.g., through advanced nanomedicine technologies, data sciences, and incorporation of factors such as ethnicity and sex) are integral to shed light on gut bacterial-mediated mechanisms, which in turn can lead to more efficacious and high-precision microbiome-based CAD preventative and therapeutic approaches which can eventually reduce the societal and economic costs of CAD[407]

# Trøseid M, Andersen GØ, Broch K, Hov JR. Have written: Host-microbiota interactions involving inflammatory and metabolic pathways have been linked to the pathogenesis of multiple immune-mediated diseases and metabolic conditions like diabetes and obesity. Accumulating evidence suggests that alterations in the gut microbiome could play a role in cardiovascular disease.[408]

# Battson ML, Lee DM, Weir TL, Gentile CL. Have declared: The gut microbiome has emerged as a critical regulator of human physiology. Deleterious changes to the composition or number of gut bacteria, commonly referred to as gut dysbiosis, has been linked to the development and progression of numerous diet-related diseases, including cardiovascular disease (CVD). Most CVD risk factors, including aging, obesity, certain dietary patterns, and a sedentary lifestyle, have been shown to induce gut dysbiosis. Dysbiosis is associated with intestinal

407 Kazemian, N., Mahmoudi, M., Halperin, F. *et al.* Gut microbiota and cardiovascular disease: opportunities and challenges. *Microbiome* 8, 36 (2020). https://doi.org/10.1186/s40168-020-00821-0

408 Trøseid M, Andersen GØ, Broch K, Hov JR. The gut microbiome in coronary artery disease and heart failure: Current knowledge and future directions. EBioMedicine. 2020 Feb;52:102649. doi: 10.1016/j.ebiom.2020.102649. Epub 2020 Feb 12. PMID: 32062353; PMCID: PMC7016372.

inflammation and reduced integrity of the gut barrier, which in turn increases circulating levels of bacterial structural components and microbial metabolites that may facilitate the development of CVD.[409]

# Ma J, Li H. have announced: In summary, gut microbiota-derived secondary BAs (bile acids) play important roles in the development of atherosclerosis through the modulation of various BA receptors such as FXR, PXR, TGR5, VDR, and S1PR2. This finding highlights the great potential for novel atherosclerosis therapy by targeting gut microbiota (Levi, 2016).[410]

# Pieczynska MD, Yang Y, Petrykowski S, Horbanczuk OK, Atanasov AG, Horbanczuk JO. have afromentioned: Gut microbiota metabolites have a great influence on host digestive function and body health itself. The effects of intestinal microbes on the host metabolism and nutrients absorption are mainly due to regulatory mechanisms related to serotonin, cytokines, and metabolites. Multiple studies have repeatedly reported that the gut microbiota plays a fundamental role in the absorption of bioactive compounds by converting dietary polyphenols into absorbable bioactive substances. Moreover, some intestinal metabolites derived from natural polyphenol products have more biological activities than their own fundamental biological functions. Bioactive like polyphenolic compounds, prebiotics and probiotics are the best-known dietary strategies for regulating the composition of gut microbial populations or metabolic/immunological activities, which are called “three “p” for gut health”. Intestinal microbial metabolites have an indirect effect on atherosclerosis, by regulating lipid metabolism and inflammation. It has been found that the diversity of intestinal microbiota negatively correlates with the development of atherosclerosis. The fewer the variation and number of microbial species in the gut, the higher the risk of developing atherosclerosis. Therefore, the atherosclerosis can be prevented and treated from the perspective of improving the number and variability of gut microbiota. In here, we summarize the effects of gut metabolites of natural

409 Battson ML, Lee DM, Weir TL, Gentile CL. The gut microbiota as a novel regulator of cardiovascular function and disease. J Nutr Biochem. 2018 Jun;56:1-15. doi: 10.1016/j.jnutbio.2017.12.010. Epub 2017 Dec 27. PMID: 29427903.

410 Ma J, Li H. The Role of Gut Microbiota in Atherosclerosis and Hypertension. Front Pharmacol. 2018;9:1082. Published 2018 Sep 25. doi:10.3389/fphar.2018.01082

products on the pathological process of the atherosclerosis, since gut intestinal metabolites not only have an indirect effect on macrophage foaming in the vessel wall, but also have a direct effect on vascular endothelial cells.[411]

Hence, we have discovered that there are overwhelming evidences that microbiome can lead to heart disease. Among the pathways are direct and indirect through modulating metabolites. Among, those heart diseases are atherosclerosis or hardened heart and artery diseases.

## 6.13. satan and the feeling of pain and burning sensation in humans

**+Narrated Abu Huraira:** The Prophet (ﷺ) said, "When any human being is born. Satan touches him at both sides of the body with his two fingers, except Jesus, the son of Mary, whom Satan tried to touch but failed, for he touched the placenta-cover instead."[412]

**+Narrated Sa`id bin Al-Musaiyab:** Abu Huraira said, "I heard Allah's Messenger (ﷺ) saying, 'There is none born among the off-spring of Adam, but Satan touches it. A child therefore, cries loudly at the time of birth because of the touch of Satan, except Mary and her child." Then Abu Huraira recited: "And I seek refuge with You for her and for her offspring from the outcast Satan" [413]

Every baby cry because of feeling of pain as satan touches them.

**+Abu Darda' reported:** Allah's Messenger (ﷺ) stood up (to pray) and we heard him say:" I seek refuge in Allah from thee." Then said:" curse thee with Allah's curse" three times, then he stretched out his hand as though he was taking hold of something. When he finished the prayer, we said: Messenger of Allah, we heard you say something during the prayer which we have not heard you say before, and we saw you stretch out your hand. He replied: Allah's enemy Iblis came with a flame of fire to put it in my face, so I said three times:" I Seek refuge in Allah from thee." Then I said

411 Pieczynska MD, Yang Y, Petrykowski S, Horbanczuk OK, Atanasov AG, Horbanczuk JO. Gut Microbiota and Its Metabolites in Atherosclerosis Development. Molecules. 2020; 25(3):594. https://doi.org/10.3390/molecules25030594

412 Sahih Al bukhari, Book of beginning of creation(59), chapter (11) The characteristics of Iblis (Satan) and his soldiers, hadith no. 3286

413 Sahih AlBukhari, book of Prophets (60), Chapter(44): The Statement of Allah Taa'la: "And mention in the Book, Maryam...", hadith no. 3431

three times:" I curse thee with Allah's full curse." But he did not retreat (on any one of these) three occasions. Thereafter I meant to seize him. I swear by Allah that had it not been for the supplication of my brother Sulaiman he would have been bound, and made an object of sport for the children of Medina.[414]

The sensation of burning pain in the skin is caused by satan without any obvious cause that cab be seen by the naked eyes. This what can be established from the last hadith as the companions of the prophet have not seen the fire (did not ask about the fire, asked about the movement of the prophet). This sensation is called neuropathic pain.

# Neuropathic pain is a pain condition that's usually chronic. It's usually caused by chronic, progressive nerve disease, and it can also occur as the result of injury or infection.[415]

## The role of human microbiome in different types of pain:

# Lin, B., Wang, Y., Zhang, P. *et al.* have stated the following regarding neuropathic pain: Although some previous studies documented several pieces of evidence to support the capability of gut microbiota to impact on BBB permeability, the proven mechanism is still unclear. Logically, we have to admit that gut microbiota is correlative with NP (neuropathic pain) instead of causal and mentioned signaling pathways of NP reinforce each other and act concurrently. In terms of mechanisms, it will be a great success if aiming at part of a matter along the signal transduction pathways contributes to improving NP-related symptoms…[416]

# Ding W, You Z, Chen Q, Yang L, Doheny J, Zhou X, Li N, Wang S, Hu K, Chen L, Xia S, Wu X, Wang C, Zhang C, Chen L, Ritchie C, Huang P, Mao J, Shen S. have concluded: Gut microbiota plays a critical role in CCI (chronic constriction injury) neuropathic pain. This role is mediated, in

414 Sahih Muslim, The Book of Mosques and Places of Prayer (5) , Chapter (8): The permissibility of cursing the Shaitan during prayer, and seeking refuge with Allah from him; and the permissibility of doing a few actions while in salat, hadith no. 542

415 https://www.healthline.com/health/neuropathic-pain

416 Lin, B., Wang, Y., Zhang, P. *et al.* Gut microbiota regulates neuropathic pain: potential mechanisms and therapeutic strategy. *J Headache Pain* **21,** 103 (2020). https://doi.org/10.1186/s10194-020-01170-x

part, through modulating proinflammatory and anti-inflammatory T cells.[417]

# Turroni S, Pedersini P, Villafañe JH. Have stated: Pain in OA cannot be attributed only to peripheral nociception, and modulation by nociceptive processing contributes to the pain experience. The discrepancies between pain in OA and the severity of radiographic findings are usually associated with the propensity of some patients to show a sensitization phenotype and are supported by recent theories that OA involves complex mechanisms of altered pain transmission. Pain in OA is related to innumerable internal and external factors, including environmental changes, diet, exercise, disease, stress, and genetics. A growing body of literature supports the importance of the brain–gut interaction in pain perception and points to the gut microbiota as a possible key factor in pain processing. The microbiota may interfere with nociceptive signaling via various routes, including enteric and vagus neural communication and the endocrine and immune systems. In particular, the integrity of the intestinal barrier has been identified as an important checkpoint, which can allow the passage of microbial metabolites or vesicles presenting immunogenic epitopes, which can prime local and systemic macrophages, exacerbating joint inflammation and damage, thus leading to increased pain [418]
There are immense data that the human microbiota is associated at least with increased and / or deceased sensation of pain of different types.

## 6.14. Devils and humans enjoying and benefiting each other

+ Allah the all knowing be exalted have stated: And on the Day when He will gather them (all) together (and say): "O you assembly of jinn! Many did you mislead of men," and their Auliyâ' (friends and helpers) amongst men will say: "Our Lord! We benefited one from the other, but now we have reached our appointed term which You did appoint for us." He will say: "The Fire be your dwelling-place, you will dwell therein forever,

417 Ding W, You Z, Chen Q, Yang L, Doheny J, Zhou X, Li N, Wang S, Hu K, Chen L, Xia S, Wu X, Wang C, Zhang C, Chen L, Ritchie C, Huang P, Mao J, Shen S. Gut Microbiota Influences Neuropathic Pain Through Modulating Proinflammatory and Anti-inflammatory T Cells. Anesth Analg. 2021 Apr 1;132(4):1146-1155. doi: 10.1213/ANE.0000000000005155. PMID: 32889847.
418 Turroni S, Pedersini P, Villafañe JH. The Human Gut Microbiome and Its Relationship with Osteoarthritis Pain. Pain Med. 2021 Jul 25;22(7):1467-1469. doi: 10.1093/pm/pnaa422. PMID: 33313892.

except as Allâh may will. Certainly, your Lord is All-Wise, All-Knowing."

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

In the day when He will gather them together (He will say): O ye assembly of the jinn! Many of humankind did ye seduce. And their adherents among humankind will say: Our Lord! We enjoyed one another, but now we have arrived at the appointed term which Thou appointedst for us. He will say: Fire is your home. Abide therein for ever, save him whom Allah willeth (to deliver). Lo! thy Lord is Wise, Aware.

— Pickthall 419

Within the contexts of these evidences, Allah almighty has clearly stated that humans and jinns will benefit each other interchangably in the physical form.

## Can microbiome and humans enjoy each other?

# Kho ZY, Lal SK. Have written: Emerging research on human microbiome and its role in human wellness and disease are currently making it to the limelight, by virtue of which, researchers of diverse clinical specialty areas are attempting to fit this potential “missing piece of puzzle” into existing disease models, particularly those with unknown etiology. Tremendous data has demonstrated strong association of the gut microbiome with host metabolism, immune and neuroendocrine homeostasis, and the possible dysregulation or alteration of gut microbiome. Perturbation of such delicate equilibrium will in turn contribute to disease manifestation. ……..On the other hand, another important component of human microbiome – the human virome that is dominated by bacteriophage (viruses that infect bacteria), is relatively less established compared to that of commensal bacteriome research. Only recently the presence of bacteriophage (or phage) in the human microbiome has been highlighted. Their potential role in modulating immune homeostasis has been suggested via (1) indirect mechanisms such as through regulating bacterial microbiome composition (phage-mediated lytic killing of host bacteria) and function (phage-mediated introduction of novel functional genes to lysogenic host such as production of endotoxin and antibiotic resistance), and (2) direct interference with human immune-inflammatory responses

419 Quran, Chapter 6 (Al anaam), verse 128

such as downregulation of the pro-inflammatory NF-κB pathway, inhibition of excessive ROS synthesis, induction of anti-inflammatory IL-10 production, and T4 phage adhesin gp12 - mediated counteraction to LPS-induced inflammation, as evidenced by downregulation of inflammation markers IL-1α and IL-6, and diminished leukocyte infiltration (Górski et al., 2016; Miernikiewicz et al., 2016). In addition, simultaneous increase in pro-inflammatory markers such as IL-1β, IL-1α, along with upregulation in anti-inflammatory IL-1 receptor antagonist and SOCS3 have been observed in P. aeruginosa and S. aureus phages treated cells, and the authors postulate that at least some phages have evolved anti-inflammatory properties to aid their survival and propagation, while retaining some pro-inflammatory properties (Van Belleghem et al., 2017). On the contrary to the largely reported anti-inflammatory properties of phage, significantly increased abundance of bacteriophages and changes in phage communities composition in CD (crohn's disease) patients compared to healthy controls have indicated a possible contributory role of phage in aberrant immune response (Lepage et al., 2008; Wagner et al., 2013). Undeniably, integrating human virome studies into the existing human bacterial microbiome will provide a bigger and clearer picture on how such transkingdom interactions could impact human health, thus, facilitating disease etiology studies.[420]

# Ventura M, Milani C, Lugli GA, van Sinderen D. have finalized: The human gut microbiota represents an extraordinary complex microbial consortium whose activities are believed to be crucial for human health and well-being. The formation of the human gut microbiota commences at the point of delivery of an essentially sterile baby and then further develops in terms of diversity and complexity during weaning, adolescence and into adult life. The microbial groups identified in the gut microbiota encompass representatives of all three domains of life, i.e. Archaea, Bacteria and Eukarya, whose dynamics are manoeuvred by various forces, such as viruses, which are believed to act as powerful drivers of gut microbiota homoeostasis (for a review see Ref.: Milani et al., 2017). The human gut microbiota is composed of autochthonous members that are believed to establish stable interactions

420 Kho ZY, Lal SK. The Human Gut Microbiome - A Potential Controller of Wellness and Disease. Front Microbiol. 2018 Aug 14;9:1835. doi: 10.3389/fmicb.2018.01835. PMID: 30154767; PMCID: PMC6102370.

with their host, as well as a transient microbial consortium whose members are mainly acquired through oral intake and who are not presumed to colonize the gut in the presence of a homoeostatic microbiota. The diverse components of the gut microbiota are known to elicit key effects in the maintenance and promotion of human health by (i) supporting the transformation of food components so as to release nutrients that would otherwise not be accessible to the host, (ii) stimulating host cell differentiation, (iii) defending the body against pathogen invasion and (iv) exerting immune modulatory activities. ……An interesting feature of the human gut microbiota is that the development of such a microbial assemblage reaches homoeostasis, which is characterized by a compositional equilibrium of its microbial members (Tamboli et al., 2004). Various events may cause disturbances in this so-called microbiota climax, thereby causing a state that has been referred to as dysbiosis. The concept of dysbiosis is controversial, simply because there is still a lack of knowledge and understanding of what precisely represents a 'normal' or healthy microbiota. Dysbiosis is usually associated with harmful effects and may have long-term consequences leading to disorders or diseases, including obesity, diabetes and inflammatory bowel disease (IBD). However, one should realize that significant variations occur in gut microbiota composition during host development from infancy to early childhood, from young to ageing adults and during pregnancy. Even if such modifications appear to be similar to those described in certain disease conditions, in their evolving context they do not necessarily lead to illness but, rather, may enhance fitness and survival and thus are considered to be beneficial (Nuriel-Ohayon et al., 2016).[421]

The above papers clearly signify the information that the human microbiome is directly related with human health and disease. As for the health: the virome controls the immunity and through the digestion and transformation of different material to hormones and enzymes by the micrbiota. On the other hand, in the disease status there are either changes

421 Ventura M, Milani C, Lugli GA, van Sinderen D. Health benefits conferred by the human gut microbiota during infancy. Microb Biotechnol. 2019 Mar;12(2):243-248. doi: 10.1111/1751-7915.13334. Epub 2018 Nov 8. PMID: 30411507; PMCID: PMC6389842.

in the microbiota composition or changes in the materials the microbiome produces.

## 6.15. Magic is from satan:

+ **ALLAH** the most supreme Almighty says: They followed what the Shayâtîn (devils) gave out (falsely of the magic) in the lifetime of Sulaimân (Solomon). Sulaimân did not disbelieve, but the Shayâtîn (devils) disbelieved, teaching men magic and such things that came down at Babylon to the two angels, Hârût and Mârût, but neither of these two (angels) taught anyone (such things) till they had said, "We are only for trial, so disbelieve not (by learning this magic from us)." And from these (angels) people learn that by which they cause separation between man and his wife, but they could not thus harm anyone except by Allâh's Leave. And they learn that which harms them and profits them not. And indeed, they knew that the buyers of it (magic) would have no share in the Hereafter. And how bad indeed was that for which they sold their ownselves, if they but knew.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan [422]

+ **ALLAH** the Almighty says: and from the evil of those ˹witches casting spells by˺ blowing onto knots,

— Dr. Mustafa Khattab, the Clear Quran

And from the evil of the blowers in knots[1]

— Saheeh International

and from the evil of the women who blow on the knots,

— Mufti Taqi Usmani

the harm in witches when they blow on knots,

— Abdul Haleem[423]

+ **Allah** the Almighty says: Moses responded, "No, you go first." And suddenly their ropes and staffs appeared to him—by their magic—to be slithering.

— Dr. Mustafa Khattab, the Clear Quran

He said, "Rather, you throw." And suddenly their ropes and staffs seemed to him from their magic that they were moving [like snakes].

— Saheeh International

422 Quran, Chapter 2 (Al Baqara), Verse 2

423 Al Quran, chapter 113 (AL falaq), verse 4

He said, “Rather, you throw.” Then, suddenly their ropes and sticks seemed to him, due to their magic, as if they were running.
— Mufti Taqi Usmani
‘You throw,’ said Moses, and—lo and behold! —through their sorcery, their ropes and staffs seemed to him to be moving.
— Abdul Haleem [424]
The above evidences and many more evidences are present to show that magic is a process by which people become diseased. Also, that magic is from satan.
It is obvious that magicians (sorcerers, enchanters) use different codes and symbols which also include numbers to cast their spells. Therefore, these numbers and symbols may be codes to certain genetic mutations.

## What are other ways that microbiome affect humans other than infection and psychiatric diseases and direct effect?

# Edry E, Lamprecht R, Wagner S, Rosenblum K, have discussed: Understanding how the CNS functions poses one of the greatest challenges in modern life science and medicine. Studying the brain is especially challenging because of its complexity, the heterogeneity of its cellular composition, and the substantial changes it undergoes throughout its life-span. The complexity of adult brain neural networks results also from the diversity of properties and functions of neuronal cells, governed, inter alia, by temporally and spatially differential expression of proteins in mammalian brain cell populations. Hence, research into the biology of CNS activity and its implications to human and animal behavior must use novel scientific tools. One source of such tools is the field of molecular genetics—recently utilized more and more frequently in neuroscience research. Transgenic approaches in general, and gene targeting in rodents have become fundamental tools for elucidating gene function in the CNS. Although spectacular progress has been achieved over recent decades by using these approaches, it is important to note that they face a number of restrictions. One of the main challenges is presented by the temporal and spatial regulation of introduced genetic manipulations. Viral vectors provide an alternative approach to temporally regulated, localized delivery of genetic modifications into neurons. In this review we describe available

424 Al Quran, chapter 20(TAHA), verse 66

technologies for gene transfer into the adult mammalian CNS that use both viral and non-viral tools. We discuss viral vectors frequently used in neuroscience, with emphasis on lentiviral vector (LV) systems. We consider adverse effects of LVs, and the use of LVs for temporally and spatially controllable manipulations. Especially, we highlight the significance of viral vector-mediated genetic manipulations in studying learning and memory processes, and how they may be effectively used to separate out the various phases of learning: acquisition, consolidation, retrieval, and maintenance. [425]

# Allen J, Sears CL. have illucidated: In recent years, the number of studies investigating the impact of the gut microbiome in colorectal cancer (CRC) has risen sharply. As a result, we now know that various microbes (and microbial communities) are found more frequently in the stool and mucosa of individuals with CRC than healthy controls, including in the primary tumors themselves, and even in distant metastases. We also know that these microbes induce tumors in various mouse models, but we know little about how they impact colon epithelial cells (CECs) directly, or about how these interactions might lead to modifications at the genetic and epigenetic levels that trigger and propagate tumor growth. Rates of CRC are increasing in younger individuals, and CRC remains the second most frequent cause of cancer-related deaths globally. Hence, a more in-depth understanding of the role that gut microbes play in CRC is needed. Here, we review recent advances in understanding the impact of gut microbes on the genome and epigenome of CECs, as it relates to CRC. Overall, numerous studies in the past few years have definitively shown that gut microbes exert distinct impacts on DNA damage, DNA methylation, chromatin structure and non-coding RNA expression in CECs. Some of the genes and pathways that are altered by gut microbes relate to CRC development, particularly those involved in cell proliferation and WNT signaling. We need to implement more standardized analysis strategies, collate data from multiple studies, and utilize CRC mouse models to better assess these effects, understand

425 Edry E, Lamprecht R, Wagner S, Rosenblum K. Virally mediated gene manipulation in the adult CNS. Front Mol Neurosci. 2011 Dec 26;4:57. doi: 10.3389/fnmol.2011.00057. PMID: 22207836; PMCID: PMC3245970.

their functional relevance, and leverage this information to improve patient care. [426]

# Chen, C., Wang, M., Zhu, Z. et al. have revealed: Influenza A (H7N9) virus induced high mortality since 2013. It is important to elucidate the potential genetic variations that contribute to virus infection susceptibilities. In order to identify genetic mutations that might increase host susceptibility to infection, we performed exon sequencing and validated the SNPS by Sanger sequencing on 18 H7N9 patients. Blood samples were collected from 18 confirmed H7N9 patients. The genomic DNA was captured with the Agilent SureSelect Human All Exon kit, sequenced on the Illumina Hiseq 2000, and the resulting data processed and annotated with Genome analysis Tool. SNPs were verified by independent Sanger sequencing. The DAVID database and the DAPPLE database were used to do bioinformatics analysis. Through exon sequencing and Sanger sequencing, we identified 21 genes that were highly associated with H7N9 influenza infection. Protein-protein interaction analysis showed that direct interactions among genetic products were significantly higher than expected ($p = 0.004$), and DAVID analysis confirmed the defense-related functions of these genes. Gene mutation profiles of survived and non-survived patients were similar, suggesting some of genes identified in this study may be associated with H7N9 influenza susceptibility. Host specific genetic determinants of disease severity identified by this approach may provide new targets for the treatment of H7N9 influenza. [427]

The above papers show that there is another method by which microbiomes and biofilms affect disease appearance which is genomic translocation of their genetic materials.

## 6.16. outline of chapter six:

Here in this chapter the reader will briefed more regarding the effects of the attached satan on humans. Laziness, drowsiness, epilepsy, paranoia, depreesion, anxiety and obsession are directly related to the change in the

426 Allen J, Sears CL. Impact of the gut microbiome on the genome and epigenome of colon epithelial cells: contributions to colorectal cancer development. Genome Med. 2019 Feb 25;11(1):11. doi: 10.1186/s13073-019-0621-2. PMID: 30803449; PMCID: PMC6388476.

427 Chen, C., Wang, M., Zhu, Z. *et al.* Multiple gene mutations identified in patients infected with influenza A (H7N9) virus. *Sci Rep* **6,** 25614 (2016). https://doi.org/10.1038/srep25614

component of the gut devil (microbiota). Not surprinsingly, auditory hallucinations which are heard voices by the affected person are caused by a dysbiosis in the gut microbiota. Moreover, these have an important role in shaping the human behaviour and personality. In addition, humans and their microbiotas share mutual benefits from each other. Only until recently it has not been discovered that viromes and microbiota cause genetic translocation and eventually some types of diseases like autoimmune diseases and cancers. Lastly, although it seemed a fiction before, nowadays it is proved that heart diseases (in the physical form and metaphorically) and neuropathic pain are caused by materials and metabolites that are by products of these devils.

# 7. Chapter seven: Pathway of Allah (Obedience and abiding by the Laws and rulings of Islam) keeps devil away. Adopting the Pathway of devil makes devil closer and stronger

## 7.1. The evidences:

+ Allah the most merciful states: Shaitân (Satan) threatens you with poverty and orders you to commit Fahshâ (evil deeds, illegal sexual intercourse, sins); whereas Allâh promises you Forgiveness from Himself and Bounty, and Allâh is All-Sufficient for His creatures' needs, All-Knower.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

The devil promiseth you destitution and enjoineth on you lewdness. But Allah promiseth you forgiveness from Himself with bounty. Allah is All-Embracing, All-knowing.

— Pickthall [428]

+ ALLAH the Most powerful: O you who believe! Follow not the footsteps of Shaitân (Satan). And whosoever follows the footsteps of Shaitân (Satan), then, verily he commands Al-Fahshâ' [i.e. to commit indecency (illegal sexual intercourse)], and Al-Munkar [disbelief and polytheism (i.e. to do evil and wicked deeds; and to speak or to do what is forbidden in Islâm)]. And had it not been for the Grace of Allâh and His Mercy on you, not one of you would ever have been pure from sins. But Allâh purifies (guides to Islâm) whom He wills, and Allâh is All-Hearer, All-Knower.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

O ye who believe! Follow not the footsteps of the devil. Unto whomsoever followeth the footsteps of the devil, lo! he commandeth filthiness and wrong. Had it not been for the grace of Allah and His mercy unto you, not one of you would ever have grown pure. But Allah causeth whom He will to grow. And Allah is Hearer, Knower.

— Pickthall [429]

428 Quran, Chapter 2 (Al-baqarah), verse 268
429 Quran, Chapter 24 ( An-Nur), verse 21

+ Narrated Abu Huraira: Allah's Messenger (ﷺ) said, "Allah said, 'I will declare war against him who shows hostility to a pious worshipper of Mine. And the most beloved things with which My slave comes nearer to Me, is what I have enjoined upon him; and My slave keeps on coming closer to Me through performing Nawafil (praying or doing extra deeds besides what is obligatory) till I love him, so I become his sense of hearing with which he hears, and his sense of sight with which he sees, and his hand with which he grips, and his leg with which he walks; and if he asks Me, I will give him, and if he asks My protection (Refuge), I will protect him; (i.e. give him My Refuge) and I do not hesitate to do anything as I hesitate to take the soul of the believer, for he hates death, and I hate to disappoint him."[430]

+**ALLAH** the Almighty says: Allâh is the Walî (Protector or Guardian) of those who believe. He brings them out from darkness into light. But as for those who disbelieve, their Auliyâ (supporters and helpers) are Tâghût [false deities and false leaders], they bring them out from light into darkness. Those are the dwellers of the Fire, and they will abide therein forever.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan 431

+ Allah the greatest says: O mankind! Eat of that which is lawful and good on the earth, and follow not the footsteps of Shaitan (Satan). Verily, he is to you an open enemy.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan [432]

+ Allah the most knoweledgeable says: O you who believe! Enter perfectly in Islâm (by obeying all the rules and regulations of the Islâmic religion) and follow not the footsteps of Shaitan (Satan). Verily! He is to you a plain enemy.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan [433]

These vereses and hadith demonstrate that commiting sins and falsehood (according the the ruling of Islam) will make a person closer to satan

430 Sahih al Bukhari, 81 To make the Heart Tender (Ar-Riqaq), (38) Chapter: The humility or modesty or lowliness, hadith 6502

431 AL Quran, chapter Al Baqaraa 2, verse 268

432 Quran, Chapter 2 ( Al Baqarah), verse 168

433 Quran, Chapter 2 ( Al Baqarah), verse 208

(makes his comrade stronger). While, if a person obeys the commands of Allah, this will keep satan away from him (makes satan weaker).

## The Pathway of Allah include:

### 7.2. Fasting and devil:

+ Allah the All-Mighty states: O you who believe! Observing As-Saum (the fasting) is prescribed for you as it was prescribed for those before you, that you may become Al-Muttaqûn (the pious).

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

O ye who believe! Fasting is prescribed for you, even as it was prescribed for those before you, that ye may ward off (evil);

— Pickthall [434]

We have agreed that the acting up on the deeds that satisfy Allah will keep satan away from that person. We highlighted before that performing the obligation that allah has commanded will keep satan weaker against that human.

### Fasting and the Microbiome:

The benefits of fasting are a lot and have been demonstrated in plethora of research. The japanse scholar Yoshinori Ohsumi has won a noble prize demonstrating one benefit. But, the benefits in regards to the microbiome is the point of our concern and focus.

# Maifeld, A., Bartolomaeus, H., Löber, U. *et al* have brieved in their paper: Periods of fasting and refeeding may reduce cardiometabolic risk elevated by Western diet. Here we show in the substudy of NCT02099968, investigating the clinical parameters, the immunome and gut microbiome exploratory endpoints, that in hypertensive metabolic syndrome patients, a 5-day fast followed by a modified Dietary Approach to Stop Hypertension diet reduces systolic blood pressure, need for antihypertensive medications, body-mass index at three months post intervention compared to a modified Dietary Approach to Stop Hypertension diet alone. Fasting alters the gut microbiome, impacting bacterial taxa and gene modules associated with short-chain fatty acid production. Cross-system analyses

434 Quran, Chapter 2 (Al-Baqarah), verse 183

reveal a positive correlation of circulating mucosa-associated invariant T cells, non-classical monocytes and $CD4^+$ effector T cells with systolic blood pressure. Furthermore, regulatory T cells positively correlate with body-mass index and weight. Machine learning analysis of baseline immunome or microbiome data predicts sustained systolic blood pressure response within the fasting group, identifying $CD8^+$ effector T cells, Th17 cells and regulatory T cells or Desulfovibrionaceae, Hydrogenoanaerobacterium, *Akkermansia*, and Ruminococcaceae as important contributors to the model. Here we report that the high-resolution multi-omics data highlight fasting as a promising non-pharmacological intervention for the treatment of high blood pressure in metabolic syndrome patients. [435]

## 7.3. Pondering and premeditation:

+ Allah the majestic states: Those who remember Allâh (always, and in prayers) standing, sitting, and lying down on their sides, and think deeply about the creation of the heavens and the earth, (saying): "Our Lord! You have not created (all) this without purpose, glory to You! (Exalted are You above all that they associate with You as partners). Give us salvation from the torment of the Fire.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

Such as remember Allah, standing, sitting, and reclining, and consider the creation of the heavens and the earth, (and say): Our Lord! Thou createdst not this in vain. Glory be to Thee! Preserve us from the doom of Fire.

— Pickthall[436]

+ Allah the All knower says: Do they not think deeply (in their ownselves) about themselves (how Alâh created them from nothing, and similarly He will resurrect them)? Allâh has created not the heavens and the earth, and all that is between them, except with truth and for an appointed term. And indeed many of mankind deny the Meeting with their Lord. [Tafsir At-Tabarî].

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

435 Maifeld, A., Bartolomaeus, H., Löber, U. *et al.* Fasting alters the gut microbiome reducing blood pressure and body weight in metabolic syndrome patients. *Nat Commun* **12,** 1970 (2021). https://doi.org/10.1038/s41467-021-22097-0

436 Quran, Chapter 3 (Ali Imran), verse 191

> Have they not pondered upon themselves? Allah created not the heavens and the earth, and that which is between them, save with truth and for a destined end. But truly many of mankind are disbelievers in the meeting with their Lord.
>
> — Pickthall[437]

These verses verify that contemplating up on the greatness of Allah by reflecting on his creation will increase the faith. Increasing faith will in turn lead to the protection and veiling against satan.

### Microbiome and meditation:

There is no direct paper that have investigated the relationship between Muslim prayer and gut microbiome. But we will take advantage of other types of meditaion (although the writer is against those other methods).

# Household AM, Peterson CT, Mills PJ, Chopra D. have stated: Psychological stress typically triggers a fight-or-flight response, prompting corticotropin-releasing hormone and catecholamine production in various parts of the body, which ultimately disturbs the microbiota. In the absence of stress, a healthy microbiota produces short-chain fatty acids that exert anti-inflammatory and antitumor effects. During stress, an altered gut microbial population affects the regulation of neurotransmitters mediated by the microbiome and gut barrier function. Meditation helps regulate the stress response, thereby suppressing chronic inflammation states and maintaining a healthy gut-barrier function. [438]

This research confirms that meditation will change the gut microbiota in a positive way.

## 7.4. Being active; Prayers in congregations, walking to prayers and to Friday prayers:

The least ruling in Islam on prayers in congregations is that it better to be done than lonely prayer. People are enhanced to walk to prayers and to Friday prayers. Therefore, being active will enhance health through weakening the attached devil. The prayers themselves are one of the five pillars of islam. These prayers must be observed and performed 5 times a

437 Quran, Chapter 30 (Ar-rum), Verse 8

438 Household AM, Peterson CT, Mills PJ, Chopra D. The Effects of Stress and Meditation on the Immune System, Human Microbiota, and Epigenetics. Adv Mind Body Med. 2017 Fall;31(4):10-25. PMID: 29306937.

day. Prayers are a form of physical activity. Also, muslims are enhanced to teach their kids some kinds of sports like swimming.

### Microbiota and physical activity:

# Monda V, et al have summarized: Collectively, the available data strongly support that, in addition to other well-known internal and external factors, exercise appears to be an environmental factor that can determine changes in the qualitative and quantitative gut microbial composition with possible benefits for the host. In fact, stable and enriched microflora diversity is indispensable to the homeostasis and normal gut physiology contributing also to suitable signaling along the brain-gut axis and to the healthy status of the individual. Exercise is able to enrich the microflora diversity; to improve the Bacteroidetes-Firmicutes ratio which could potentially contribute to reducing weight, obesity-associated pathologies, and gastrointestinal disorders; to stimulate the proliferation of bacteria which can modulate mucosal immunity and improve barrier functions, resulting in reduction in the incidence of obesity and metabolic diseases; and to stimulate bacteria capable of producing substances that protect against gastrointestinal disorders and colon cancer (such as, SCFAs). Therefore, the exercise can be used as a treatment to maintain the balance of the microflora or to rebalance his eventual dysbiosis, thus obtaining an improvement of the health status. [439]

Physical activities modulate the gut, skin and genital microbiota.

## 7.5. The halal meat and satan:

+ AllaH the Most great says: Eat not (O believers) of that (meat) on which Allâh's Name has not been pronounced (at the time of the slaughtering of the animal), for sure it is Fisq (a sin and disobedience of Allâh). And certainly, the Shayâtîn (devils) do inspire their friends (from mankind) to dispute with you, and if you obey them[1] [by making Al-Maitah (a dead animal) legal by eating it], then you would indeed be Mushrikûn (polytheists); [because they (devils and their friends) made lawful to you to eat that which Allâh has made unlawful to eat and you

439 Monda V, Villano I, Messina A, Valenzano A, Esposito T, Moscatelli F, Viggiano A, Cibelli G, Chieffi S, Monda M, Messina G. Exercise Modifies the Gut Microbiota with Positive Health Effects. Oxid Med Cell Longev. 2017;2017:3831972. doi: 10.1155/2017/3831972. Epub 2017 Mar 5. PMID: 28357027; PMCID: PMC5357536.

obeyed them by considering it lawful to eat, and by doing so you worshipped them; and to worship others besides Allâh is polytheism].
— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan [440]
+ Ibn 'Abbas reported that Allah's Messenger (ﷺ) prohibited the eating of all fanged beasts of prey, and all the birds having talons.[441]

We have encountered that satan become stronger by obeying him. On the other hand, obeying Allah will weaken satan. By this satan we refer to the attached one mostly. Obviously, most unlawful meat is from carnivore animals. On the other hand, most lawful meat comes from herbivore animals.

## Carnivores and herbivores microbiota:

# Zoelzer, F., Burger, A.L. & Dierkes, P.W. have found: We found significant differences in the consistency of microbiota composition and in fecal microbial diversity between carnivore and herbivore species. Whereas the microbiota of Carnivora is highly variable and inconsistent within and between species, Perissodactyla and Ruminantia show fewer differences across species boundaries. Furthermore, low-abundance bacterial families show higher fluctuations in the fecal microbiota than high-abundance ones.

Conclusions

Our data suggest that microbial diversity is significantly higher in herbivores than in carnivores, whereas the microbiota in carnivores, unlike in herbivores, varies widely even within species. This high variability has methodological implications and underlines the need to analyze a minimum amount of about 10 samples per species. In our study, we found considerable differences in the occurrence of different bacterial families when looking at just three and six samples. However, from a sample number of 10 onwards, these within-species fluctuations balanced out in most cases and led to constant and more reliable results.[442]

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**440**Al Quran, Chapter 5(AL Maidah), verse 3
**441** Sahih Muslim, (34) The Book of Hunting, Slaughter, and what may be Eaten, (3) Chapter: The prohibition of eating any wild animal with Fangs and any bird with Talons, hadith no. 1934a.
442 Zoelzer, F., Burger, A.L. & Dierkes, P.W. Unraveling differences in fecal microbiota stability in mammals: from high variable carnivores and consistently stable herbivores. *anim microbiome* **3,** 77 (2021). https://doi.org/10.1186/s42523-021-00141-0

# O' Donnell et al have found: The diversity indices indicated that while the ruminant microbiota was more diverse than the hindgut-fermenting counterparts, compared to other microbiota sequencing studies, they are less diverse. We measured lower phylotype diversity in the hindgut fermenter, ruminant, and monogastric microbiota compared to data from the distal bowel microbiota of other animals (Lamendella, Santo Domingo, Ghosh, Martinson, & Oerther, **2011**; Pitta et al., **2010**). Our phylotype estimations for the animal species (415–660) were within the ranges estimated for the human microbiota (Claesson et al., **2009**; Nam, Jung, Roh, Kim, & Bae, **2011**) but lower than our previous hindgut microbiota estimates (O' Donnell et al., **2013**). [443]

## 7.6. Natural remedies (herbal) can be used as treatment or as anti-biofilm:

**+ Narrated Jabir bin `Abdullah:** I heard the Prophet (ﷺ) saying, "If there is any healing in your medicines, then it is in cupping, a gulp of honey or branding with fire (cauterization) that suits the ailment, but I don't like to be (cauterized) branded with fire."[444]

**Narrated Um Qais:** that she took to Allah's Messenger (ﷺ) one of her sons whose palate and tonsils she had pressed because he had throat trouble. The Prophet (ﷺ) said, "Why do you pain your children by getting the palate pressed like that? Use the Ud Al-Hindi (certain Indian incense) for it cures seven diseases one of which is pleurisy."[445]

These two hadiths obviously state that other than conventional medicines or drugs some natural or herbal remedies can definitely can be used as cures for different types of cures. Pleurisy is the inflammation of the pleura which is the linning of the thoracic cavity (rib cage) covering the lungs. The causes of this disease are: bacteria, viruses, fungi, autoimmune and others.

443 O' Donnell, MM, Harris, HMB, Paul Ross, R, O'Toole, PW. Core fecal microbiota of domesticated herbivorous ruminant, hindgut fermenters, and monogastric animals. *MicrobiologyOpen*. 2017; 6:e509. https://doi.org/10.1002/mbo3.509

444 Sahih Al Bukhari, The Book of Medicine (76), Chapter (4): Treatment with honey, Hadith no. 5683

445 Sahih Al Bukhari, The Book of Medicine (76), Chapter (23): Al-Udhra (throat or tonsil diseases), Hadith no. 5715

## Natural remedies as antibiofilms:

# Lu L, et al have confirmed the following: As indicated in this review, nature resources offered a huge library for the screening of anti-biofilm agents. Plants and natural foods have been gaining increasing research focus on their health-promoting effects in recent years. Up to now, series of studies investigated inhibitory effects of natural products on bacterial biofilm formation and development, suggesting their potential as alternative agents for bacterial infections. According to the current findings, most of natural anti-biofilm agents showed encouraging preclinical data for anti-biofilm efficiency in various bacterial species. Their potential regulatory mechanism was mainly due to the suppression of each steps of biofilm formation or QS network inhibition. Screening anti-biofilm agents by chromatographic separation and other techniques in the last two decades opened the way to isolate effective components. However, many studies of plant-derived extracts with anti-biofilm activity do not identify the molecular structures of the bioactive molecules, indicating that more studies need to be performed. [446]

# Song, Xun & Xia, et. al. have found: Results: A total of 95 related references were found. The phytochemicals, fractions and extracts are grouped by their general classes or by their putative active components. More than 90 bioactive anti-biofilm compounds have been identified from different parts of the plants. The inhibitory concentration of the natural products was also included, and some of them were investigated for their possible anti-biofilm mechanism. Conclusion: This review has demonstrated solid evidences that plants are an excellent source to provide abundant natural compounds for the development of preventative and therapeutic agents against biofilm-based infections. [447]

Natural remedies are good source for antibiofilms.

446 Lu L, Hu W, Tian Z, Yuan D, Yi G, Zhou Y, Cheng Q, Zhu J, Li M. Developing natural products as potential anti-biofilm agents. Chin Med. 2019 Mar 20;14:11. doi: 10.1186/s13020-019-0232-2. PMID: 30936939; PMCID: PMC6425673.

447 Song, Xun & Xia, Yi-Xuan & He, Zhen & Zhang, Hongjie. (2017). A Review of Natural Products with Anti-Biofilm Activity. Current Organic Chemistry. 21. 10.2174/1385272821666170620110041.

## 7.7. Judgement and rulings other than those of islam leads to become astray and obey the path of devil

+ Allah the exalted states: Have you not seen those (hypocrites) who claim that they believe in that which has been sent down to you, and that which was sent down before you, and they wish to go for judgement (in their disputes) to the Tâghût [1] (false judges) while they have been ordered to reject them. But Shaitân (Satan) wishes to lead them far astray.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

Hast thou not seen those who pretend that they believe in that which is revealed unto thee and that which was revealed before thee, how they would go for judgment (in their disputes) to false deities when they have been ordered to abjure them? Satan would mislead them far astray.

— Pickthall[448]

+ Allah the exalted states: And recite (O Muhammad صلى الله عليه وسلم) to them the story of him to whom We gave Our Ayât (proofs, evidence, verses, lessons, signs, revelations, etc.), but he threw them away; so Shaitân (Satan) followed him up, and he became of those who went astray.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

Recite unto them the tale of him to whom We gave Our revelations, but he sloughed them off, so Satan overtook him and he became of those who lead astray.

— Pickthall [449]

The verses are clear evidences that whoever accepts a ruling other than that ordered by allah will follow him and become stronger to mislead him or her.

## 7.8. The harm during Menses

+ ALLAH the most merciful has stated: They ask you concerning menstruation. Say: that is an Adha (a harmful thing for a husband to have a sexual intercourse with his wife while she is having her menses), therefore keep away from women during menses and go not unto them till they are purified (from menses and have taken a bath). And when they

448 Quran, Chapter 4 (An-Nisa), verse 60
449 Quran, Chapter 7 (Al-A'raf), verse 175

have purified themselves, then go in unto them as Allâh has ordained for you (go in unto them in any manner as long as it is in their vagina). Truly, Allâh loves those who turn unto Him in repentance and loves those who purify themselves (by taking a bath and cleaning and washing thoroughly their private parts, bodies, for their prayers).

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[450]

As was mentioned before the orders of Allah make humans safe and will keep the devil away from humans. On the contrary, by disobeying god humans will get closer to satan. Allah states that menses are harm therefore men should obstain from intercourse with women during this time. Recent research and studies suggest that there are change in the uterine microbiota during menses and some types of bacteria can make more harm.

## Menses and the uterine and cervical microbiota:

# Critchley HOD, Babayev E, Bulun SE, Clark S, Garcia-Grau I, Gregersen PK, Kilcoyne A, Kim JJ, Lavender M, Marsh EE, Matteson KA, Maybin JA, Metz CN, Moreno I, Silk K, Sommer M, Simon C, Tariyal R, Taylor HS, Wagner GP, Griffith LG. have stated: Hormonal changes within the menstrual cycle are proposed major regulators of the reproductive tract microbiota. During the menstrual cycle, circulating estrogens and progesterone positively correlate with community constancy, whereas during menses, the microbiota is more prone to bacterial changes. There are different community trends during the menstrual cycle with some communities remaining stable across the whole cycle, whereas others experience CST (community state types) shifts in response to menses and shift back after menstruation. A stable pattern is observed in some women colonized by L crispatus, whereas the majority of women undergo microbial population changes with menses, entailing transitions from microbiota dominated by Lactobacillus to microbiota with L iners, G vaginalis, gram-positive cocci, or other dysbiotic bacteria. L iners and G vaginalis levels may rise in the vagina during menses because of their capacity to grow under adverse conditions. For example, G vaginalis cannot grow in iron-limiting conditions but is able to secrete vaginolysin to lyse host cells (ie, erythrocytes) to gather iron. In addition, some Lactobacillus strains have protective mechanisms enabling them to grow

450 Quran, Chapter 2 ( Al Baqarah), Verse 222

in the presence of iron. For example, L crispatus encodes an iron transport system. Similarly, L iners synthesizes a unique ironesulfur protein cluster that confers the ability to sequester iron from menstrual blood, providing L iners with an advantage over L gasseri and L jensenii, within the vaginal niche during menses.[451]

Most women will have a change or shift of the uterine microbiota during menses.

## 7.9. Alcoholics are from satan

+ Allah the most supreme says: O you who believe! Intoxicants (all kinds of alcoholic drinks), and gambling, and Al-Ansâb[1], and Al-Azlâm (arrows for seeking luck or decision) are an abomination of Shaitan's (Satan) handiwork. So avoid (strictly all) that (abomination) in order that you may be successful.90, Shaitân (Satan) wants only to excite enmity and hatred between you with intoxicants (alcoholic drinks) and gambling, and hinder you from the remembrance of Allâh and from As-Salât (the prayer). So, will you not then abstain?. 91

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

O ye who believe! Strong drink and games of chance and idols and divining arrows are only an infamy of Satan's handiwork. Leave it aside in order that ye may succeed.90, Satan seeketh only to cast among you enmity and hatred by means of strong drink and games of chance, and to turn you from remembrance of Allah and from (His) worship. Will ye then have done?, 91.

— Pickthall [452]

We have previously stated that the production of alcoholics is associated with biofilms. In addition, according to the rule of following the foot steps of satan, these intoxicantns may strnghthen the attached devil.

## Gut microbiota and alcoholism:

# Engen PA, et al have finalized: Alcohol-induced changes in the GIT microbiota composition and metabolic function may contribute to the well-

451 Critchley HOD, Babayev E, Bulun SE, Clark S, Garcia-Grau I, Gregersen PK, Kilcoyne A, Kim JJ, Lavender M, Marsh EE, Matteson KA, Maybin JA, Metz CN, Moreno I, Silk K, Sommer M, Simon C, Tariyal R, Taylor HS, Wagner GP, Griffith LG. Menstruation: science and society. Am J Obstet Gynecol. 2020 Nov;223(5):624-664. doi: 10.1016/j.ajog.2020.06.004. Epub 2020 Jul 21. PMID: 32707266; PMCID: PMC7661839.

452 Quran, Chapter 5 (Al-Ma'idah), verses 90-91

established link between alcohol-induced oxidative stress, intestinal hyperpermeability to luminal bacterial products, and the subsequent development of alcoholic liver disease (ALD), as well as other diseases. In addition, clinical and preclinical data suggest that alcohol-related disorders are associated with quantitative and qualitative dysbiotic changes in the intestinal microbiota and may be associated with increased GIT inflammation, intestinal hyperpermeability resulting in endotoxemia, systemic inflammation, and tissue damage/organ pathologies including ALD. Thus, gut-directed interventions, such as probiotic and synbiotic modulation of the intestinal microbiota, should be considered and evaluated for prevention and treatment of alcohol-associated pathologies.[453]

## 7.10. Anal sex and satan:

+ Allah the most dominant says: And (remember) Lût (Lot), when he said to his people: "Do you commit the worst sin such as none preceding you has committed in the ‘Âlamîn (mankind and jinn)?

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan

And Lot! (Remember) when he said unto his folk: Will ye commit abomination such as no creature ever did before you?

— Pickthall[454]

Anal sex is unlawful in islam for both men and women. That is why allah retells the story of sadom and ammura where the folks of Lut (peace and blessings on him) used to live. He adds that he had tormented them turning their town upside down to purify the earth from the filth of their act and their devil. This is done mixing the cells of the devil with dirt from earth. This idea of purification by dirt is supported by the saying of the prophet: +Abu Huraira reported: The Messenger of Allah (ﷺ) said: The purification of the utensil belonging to any one of you, after it is licked by a dog, lies in washing it seven times, using sand for the first time.[455]

453 Engen PA, Green SJ, Voigt RM, Forsyth CB, Keshavarzian A. The Gastrointestinal Microbiome: Alcohol Effects on the Composition of Intestinal Microbiota. Alcohol Res. 2015;37(2):223-36. PMID: 26695747; PMCID: PMC4590619.

454 Quran, Chapter 7(Al-A’raf), Verse 80

455 Sahih muslim, 2 The Book of Purification, (27) Chapter: Rulings on what was licked by a dog, hadith 279d

## Anal sex and the virome and the gut microbiota:

# Sara L. Coleman, C. Preston Neff, Sam X. Li, Abigail J.S. Armstrong, Jennifer M. Schneider, Sharon Sen, Blair Fennimore, Thomas B. Campbell, Catherine A. Lozupone & Brent E. Palmer have concluded: Gaining a complete understanding of transmission risk factors will assist in efforts to reduce new HIV infections, especially within the disproportionally affected population of men who have sex with men (MSM). We recently reported that the fecal microbiota of MSM elevates immune activation in gnotobiotic mice and enhances HIV infection *in vitro* over that of fecal microbiota from men who have sex with women. We also demonstrated elevation of the gut homing marker CD103 (integrin αE) on $CD4^+$ T cells by MSM-microbiota. Here we provide additional evidence that the gut microbiota is a risk factor for HIV transmission in MSM by showing elevated frequencies of the HIV co-receptor CCR5 on $CD4^+$ T cells in human rectosigmoid colon biopsies. We discuss our interest in specific MSM-associated bacteria and propose the influx of $CD103^+$ and $CCR5^+$ $CD4^+$ T cells into the colon as a potential link between the MSM microbiota and HIV transmission.[456]

### 7.11. Intoxicants and satan:

**+ Nafi' reported Ibn 'Umar as saying:** I do not know this but from Allah's Apostle (ﷺ) who said: Every intoxicant is Khamr and every Khamr is forbidden. [457]

This means that intoxicant will make the harmful bacteria more abundant inside the gut.

## Addictive drugs and Gut microbiota:

# Ren M, Lotfipour S, have concluded: We highlight here the role of gut bacteria in the affected neurocircuitry and behaviors of opioid abuse and addiction, including the stress HPA axis, mesolimbic dopamine system, tolerance, withdrawal, and craving. We also provide support that the gut-

456 Sara L. Coleman, C. Preston Neff, Sam X. Li, Abigail J.S. Armstrong, Jennifer M. Schneider, Sharon Sen, Blair Fennimore, Thomas B. Campbell, Catherine A. Lozupone & Brent E. Palmer (2020) Can gut microbiota of men who have sex with men influence HIV transmission?, Gut Microbes, 11:3, 610-619, DOI: 10.1080/19490976.2019.1700756

457 Sahih Muslim, (36) The Book of Drinks, (7) Chapter: Every intoxicant is Khamr and all Khamr is Haram, hadith 3002d

brain axis and opioid use share bidirectional communication, as opioid exposure changes the gut microbiome, and manipulation of gut bacteria influences opioid-related behaviors, such as pain tolerance, withdrawal, anhedonia, and drug reward. The impact of gut dysbiosis on impaired reward, enhanced stress, and neuroinflammation, as well as the glaring feedback of these factors on gut health, strongly implicates an important role of the gut-brain axis in opioid use.[458]

These studies clearly infer the facts that ruling other than those ordered by our God lead to change in the gut microbiota.

## 7.12. The ways satan affect the human body negatively:

During the papers of the this extensive reseach we have encountered four different ways in which satan and jinn can affect the human body negatively. These are:

1. Magic: + Allah the most great says: They followed what the Shayâtîn (devils) gave out (falsely of the magic) in the lifetime of Sulaimân (Solomon). Sulaimân did not disbelieve, but the Shayâtîn (devils) disbelieved, teaching men magic and such things that came down at Babylon to the two angels, Hârût and Mârût, but neither of these two (angels) taught anyone (such things) till they had said, "We are only for trial, so disbelieve not (by learning this magic from us)." And from these (angels) people learn that by which they cause separation between man and his wife, but they could not thus harm anyone except by Allâh's Leave. And they learn that which harms them and profits them not. And indeed they knew that the buyers of it (magic) would have no share in the Hereafter. And how bad indeed was that for which they sold their ownselves, if they but knew.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan [459]

2. Envy: + Allah the greatest states: And from the evil of an envier when he envies."

— Saheeh International [460]

+ Ibn 'Abbas reported Allah's Messenger (ﷺ) as saying:The influence of an evil eye is a fact; if anything would precede the destiny it would be the

458 Ren M, Lotfipour S. The role of the gut microbiome in opioid use. Behav Pharmacol. 2020 Apr;31(2&3):113-121. doi: 10.1097/FBP.0000000000000538. PMID: 31895059; PMCID: PMC7908675.

459 Quran, Chapter 2 (Al Baqara), Verse 102

460 Quran, Chapter 113 (Al Falaq), Verse 5

influence of an evil eye, and when you are asked to take bath (as a cure) from the influence of an evil eye, you should take bath."[461]

**+ Jabir b. 'Abdullah reported that Allah's Apostle (ﷺ) granted sanction to the family of Hazm for incantation (in mitigating the effect of the poison of) the snake, and, he said -to Asma' daughter of 'Umais:** What is this that I see the children of my brother lean? Are they not fed properly? She said: No, but they fall under the influence of an evil eve. He said: Use incantation She recited (the words of incantation before him), whereupon he (by approving them) said: Yes, use this incantation for them.[462]

**+ Narrated Ibn `Abbas:**

The Prophet (ﷺ) used to seek Refuge with Allah for Al-Hasan and Al-Husain and say: "Your forefather (i.e. Abraham) used to seek Refuge with Allah for Ishmael and Isaac by reciting the following: 'O Allah! I seek Refuge with Your Perfect Words from every devil and from poisonous pests and from every evil, harmful, envious eye.' [463]

3. Touch from satan: + Allah the most great says: Those who eat Ribâ (usury) will not stand (on the Day of Resurrection) except like the standing of a person beaten by Shaitân (Satan) leading (touches) him to insanity. That is because they say: "Trading is only like Ribâ (usury)," whereas Allâh has permitted trading and forbidden Ribâ (usury). So, whosoever receives an admonition from his Lord and stops eating Ribâ (usury) shall not be punished for the past; his case is for Allâh (to judge); but whoever returns [to Ribâ (usury)], such are the dwellers of the Fire - they will abide therein.

— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan [464]

4. Wachz (assault): +The plague was mentioned in front of Abu Musa (Allah be pleased with him) then he said we have asked the prophet (peace and blessings be on him) he replied that it is the assault (aching) from your enemies of the jinn which is martyrdom for you.[465]

461 Sahih muslim, 39 The Book of Greetings, (16) Chapter: Medicine, Sickness And Ruqyah, hadith 2188

462 Sahih Muslim, (39) The Book of greetings, Chapter (21): It Is Recommended To Recite Ruqyah For The Evil Eye, Pustules, And Stings, hadith no.2198

463 Sahih Al-Bukhari, (60) The Book of greetings, Chapter (10):….., hadith no.: 3371

464 Al Quran, Chapter 2 (AlBaqara), verse 275

465 Musnad Ahmed, hadith no. 25649 and others

+ Also, the prophet (peace and blessings be on him) said: the vanishing of my nation is by stabbing and plague which is the aching (assault) from your enemies from the jinn and in each is martyrdom. 466

We have also, encountered many ways in which microbiomes can interfere human health. Firstly, they can manipulate different neurotransmitters produced inside the human body. This inturn, can lead to different psychiatric diseases and neurological diseases. Secondly, they can alter the human immune system therefore can induce different autoimmune afflictions. This can be done partly by gene translocation. Other forms of affliction are rapid inflammation and infection which is caused directly by the bacteria, virus or fungi.

## 7.13. to recap chapter seven:

Not alarmingly, if a person would've told people how good deeds would affect their body and satan positively and the opposite of good deeds in the opposite way he or she would've been treated as fictitious person. Luckily, with much advance in genomic sequencing and harvesting human and microbiota genomes the above fact regarding deeds and their effects have become plausible and would seem more realistic than many other assumptions made by humans. Fasting, meditation and eating herbivore meat would affect the humans positively. On the other hands, commiting sins like anal sex, drinking alcoholics and addictive drugs would affect the microbiota and the human negatively.

466 Musnad Ahmed, hadith no. 19208 and others

# 8. chapter eight: The opening from the Knower (Allah) that the Quranic dating is accurate and precise

## 8.1. Introduction:

In the name of my Lord Allah the Lord of all creatures, the gracious, the most merciful I begin this chapter. In this chapter, the author talks about the creation of the universe in a religious and a scientific point of view. In this comparison he intends to show that since darwinists have took over universities and scientific research centers they have been misleading common people about religion. They have been saying untrue things about the religion. This paper intends to uncover that true religion does not conflict true scientific facts. But it is the mind of some people that can explain both (religious facts and scientific facts) as a confliction.
I ask my Lord to correct my intention and make for his sake only.

## 8.2. The creation of the universe: A comparison between Quranic statements and recent scientific findings:

It has been long debated that the universe has existed since no time (ever) or has come into existence from nothing. Different astronomers over different eras have speculated those two major concepts. The first idea i.e. the universe has existed without a beginning was familiar long time ago. However, this was rejected due to the revelation of different scriptures to humanity. These clearly refute the former concept of an ever-existing universe.

### 8.2.1 the beginning of the universe:

**+ Allah (God) the Almighty states in the Quran:** Have not those who disbelieve known that the heavens and the earth were joined together as one united piece, then We parted them? And We have made from water every living thing. Will they not then believe? [467]
Therefore, in the Quran Allah (God) the Almighty states that the universe was all united in one mass then Allah (God) Almighty split them and made them apart from each other. This is what recently has been discovered and it has been widely accepted which is known as the big bang theory.

467 the Holy Quran, chapter 21 Al Anbiya, Verse (30)

### 8.2.2. Early stages of universe:

Then He (Allah) Almighty clearly demonstrates in the Quran that the universe was in a hot gaseous state then it was made to cool down and then the planets and the stars were created.

+ Allah the Expert states: Then He rose over towards the heaven when it was smoke, and said to it and to the earth: "Come both of you willingly or unwillingly." They both said: "We come, willingly."[468]

# The science magazine has stated: "About 300,000 years after the big bang, the universe was like a smoke-filled chamber from which light could not escape. By the time the universe was a billion years old, the smoke—actually a gas of light-trapping hydrogen—had cleared almost entirely, allowing stars and galaxies to become visible. But exactly what cut through the haze has been one of the big questions in astrophysics. Now, by analyzing images taken by the Hubble Space Telescope, researchers have come close to confirming their best guess: the smoke was cleared away by a blaze of ultraviolet radiation from the earliest galaxies."[469]

### 8.2.3. The expansion after cooling down:

+ Allah the Almighty says: With power did We construct the heaven. Verily, We are Able to extend the vastness of space thereof. [470]

# it is written in Wikipedia: "The metric expansion of space is the increase of the distance between two distant parts of the universe with time. It is an intrinsic expansion whereby the scale of space itself is changed. That is, a metric expansion is defined by an increase in distance between parts of the universe even without those parts "moving" anywhere. This is not the same as any usual concept of motion, or any kind of expansion of objects "outward" into other "preexisting" space, or any kind of explosion of matter which is commonly experienced on earth.

Metric expansion is a key feature of Big Bang cosmology and is modeled mathematically with the FLRW metric. This model is valid in the present era only on large scales (roughly the scale of galaxy clusters and above)."[471]

468 The Quran, Fussialat (41), verse 11

469 (http://news.sciencemag.org/sciencenow/2010/11/how-the-early-universe-cleared-a.html)

470 Holy Quran, Chapter 51 Aldhariat, verse **(47)**

471 (http://en.wikipedia.org/wiki/Metric_expansion_of_space)

### 8.2.4. Does the universe have an ending?

+ Then Allah the almighty describes how he Almighty will gather everything: And (remember) the Day when We shall roll up the heaven like a scroll rolled up for books, As We began the first creation, We shall repeat it, (it is) a promise binding upon Us. Truly, We shall do it. 472

Therefore, Allah the Almighty expanded the heavens in the beginning, and then he will do the reverse at the end.

# what is the big crunch: "If the universe is finite in extent and the cosmological principle (not to be confused with the cosmological constant) does not apply, and the expansion speed does not exceed the escape velocity, then the mutual gravitational attraction of all its matter will eventually cause it to contract. If entropy continues to increase in the contracting phase (see Ergodic hypothesis), the contraction would appear very different from the time reversal of the expansion. While the early universe was highly uniform, a contracting universe would become increasingly clumped. Eventually all matter would collapse into black holes, which would then coalesce producing a unified black hole or Big Crunch singularity.

The Hubble Constant measures the current state of expansion in the universe, and the strength of the gravitational force depends on the density and pressure of the matter and in the universe, or in other words, the critical density of the universe. If the density of the universe is greater than the critical density, then the strength of the gravitational force will stop the universe from expanding and the universe will collapse back on itself—assuming that there is no repulsive force such as a cosmological constant. Conversely, if the density of the universe is less than the critical density, the universe will continue to expand and the gravitational pull will not be enough to stop the universe from expanding. This scenario would result in the 'Big Freeze', where the universe cools as it expands and reaches a state of entropy. One theory proposes that the universe could collapse to the state where it began and then initiate another Big Bang, so in this way the universe would last forever, but would pass through phases of expansion (Big Bang) and contraction (Big Crunch).

Recent experimental evidence (namely the observation of distant supernovae as standard candles, and the well-resolved mapping of

472 Holy Quran, chapter 21 alanbiya, verse (104)

the cosmic microwave background) has led to speculation that the expansion of the universe is not being slowed down by gravity but rather accelerating. However, since the nature of the dark energy that is postulated to drive the acceleration is unknown, it is still possible (though not observationally supported as of today) that it might eventually reverse sign and cause a collapse." [473]

## 8.3. Where could the Problem be regarding the dating of universe age:

The Quranic dating of the creation or the formation of the universe mentions only 6 days for the Genesis (creation), while recent scientific researches and studies have proven that the time that lapsed from the beginning of the big bang till the formation of the earth is nearly 8 billion years. For many atheists this is a big challenge for the Quran and they consider this information as a proof to reject the existence of the creator. However, those atheists have missed that the creator (Almighty) has abilities that they cannot comprehend. They take those statements and try to analyze or interpret them simply without applying any laws of physics. while, some person discovers some tiny information they cheerfully accept his theory without any argument even if it seems too weird.

Now, let's go through the evidences of both groups and try to analyze them:

### 8.3.1. Scientific dating:

Here radiometric dating and the Hubble's and various other methods are utilized. These methods all show a great deal of accuracy and they estimate the age of the universe to be nearly 13.78 billion years. The formation of earth was nearly after 7-8 billion years.

### 8.3.2. Quranic dating:

The Quranic dating differs from the scientific methods of dating that it gives numbers. However, these numbers are much less than the scientific dating.

+ Allah the Almighty says: Indeed, your Lord is Allah, Who created the heavens and the earth in Six Days, and then He rose over the Throne (really in a manner that suits His Majesty). He brings the night as a cover over the day, seeking it rapidly, and (He created) the sun, the moon, the stars

473 (http://en.wikipedia.org/wiki/Big_Crunch#cite_note-2)

subjected to His Command. Surely, His is the Creation and Commandment. Blessed is Allah, the Lord of all that exists.[474]

+ Allah be exalted also says: Surely, your Lord is Allah Who created the heavens and the earth in six Days and then rose over the Throne (really in a manner that suits His Majesty), disposing the affair of all things. No intercessor (can plead with Him) except after His permission. That is Allah, your Lord; so worship Him (Alone). Then, will you not remember? [475]

+ Allah the almighty also says: And He it is Who has created the heavens and the earth in six Days and His Throne was on the water, that He might try you, which of you is the best in deeds. But if you were to say to them: "You shall indeed be raised up after death," those who disbelieve would be sure to say, "This is nothing but obvious magic.[476]

+ Allah the Most great also says: Who created the heavens and the earth and all that is between them in six Days. Then He rose over the Throne (in a manner that suits His Majesty). The Most Gracious (Allah)! Ask Him, as He is The All-Knower [477]

So far Allah the almighty has said that the creation of the universe till the completion of the creation of the planet earth has taken six days. However, as we viewed before that physicists (physic scientists) and geologist say that it has taken more than 8 billion years. Skeptics will say that this will destroy Islam. But those have forgotten that Islam is the religion that The Almighty Allah has satisfied for whole mankind.
+ He Almighty says: It is He Who has sent His Messenger (Muhammad SAW) with guidance and the religion of truth (Islam), to make it superior over all religions even though the polytheists hate [478]

474 Holy Quran, chapter 7 al aaraf, verse 54
475 Holy Quran, chapter 10 Yunus, verse 3
476 Holy Quran, chapter 11 Huud, verse 7
477 Holy Quran, chapter 25 Al Furqan, verse 59
478 Holy Quran, chapter 9 Attawba, verse 33

+ Allah almighty says: They intend to put out the Light of Allah with their mouths. But Allah will bring His Light to perfection even though the disbelievers hate.[479]

+ Any problem that might occur is always solved by the Holy Quran. As Allah be Exalted says: And (bethink you of) the day when We raise in every nation a witness against them of their own folk, and We bring thee (Muhammad) as a witness against these. And We reveal the Scripture unto thee as an exposition of all things, and a guidance and a mercy and good tidings for those who have surrendered (to Allah) [480]

### 8.3.3. The problem is always solved by the Quran:

For many years different scientists (physicists) have worked hard to know the laws and the rules for occurring events. Most of them have dedicated most of their lives to discover those rules. Amongst them is Einstein that had discovered the laws of relativity and put them into equations. The general theory of relativity describes a phenomenon **called time dilation.** Time dilation which is an actual difference of elapsed time between two events as measured by observers either moving relative to each other or differently situated from gravitational masses. Time dilation is described in the Holy Quran.

+ Allah the almighty says: The angels and the Rûh (Gabriel) ascend to Him in a Day the measure whereof is fifty thousand years.481

Here, in this verse it is clear that the angels which are created from light, (so probably) will ascend in a speed that is close to the speed of light. One day for the journey of the angels will be nearly equal to 17700000 (lunar year is used) of our days. So, one second in a speed close to the speed of light will be nearly equal to 209 of our days (these relative days tha we are living). This is what the special theory of relativity says: the speed of time lapsing is inversely proportional to the speed of the moving object.

+ Allah be exalted also says: And they ask you to hasten on the torment! And Allah fails not His Promise. And verily, a day with your Lord is as a thousand years of what you reckon482

479 Holy Quran, chapter 61 Assaaf, verse 8
480 Holy Quran, chapter 16 Annahl, verse 89
481 Holy Quran, chapter 70 al maarij, verse 4
482 Holy Quran, chapter 22 Al Hajj, verse 47

Here in this verse Allah the almighty says that the one day (not ours) is equal to a thousand years of what we calculate. so, one day will be equal to 354000 days of ours. One second is equal to 4.09 days of our days.

**This is called time dilation.**

+ He Exalted also says: He manages and regulates (every) affair from the heavens to the earth, then it (affair) will go up to Him, in one Day, the space whereof is a thousand years of your reckoning (i.e. reckoning of our present worlds time).[483]

The same as in the last verse is clear evident that the Quran talks about time dilation (or change in the speed of time lapsing due to different variants).

+ Also, there is a prophetic saying that solves the whole problem:

Anas bin Malik narrated that the Allah's Messenger (s.a.w) said: "The hour shall not be established until time is constricted, and the year is like a month, a month is like the week, and the week is like the day, and the day is like the hour, and the hour is like the flare of the fire."[484]

So here in this saying the prophet (saaws) clearly states that the time on the earth lapses in different speeds in different eras. This saying gives a clue that in the beginning of time 1 day could have lapsed as billions of years. The example of which in this real universe are the black holes. Scientists say that the time inside the black holes is stand still because of the great mass and density of black holes. Scientists have proven that the early universe was much smaller than today's size. Also, rapid expansion happened which allowed the universe to enlarge enormously. However, these are postulates and theoretical knowledge. The universe till some thousand years ago might have acted as a black hole in regard to time dilation. Plus, with the expansion of the universe the time becomes much faster.

+ We said: Allaah's Messenger, how long would he stay on the earth? He said. For forty days, one day like a year and one day like a month and one day like a week and the rest of the days would be like your days. We said: Allaah's Messenger, would one day's prayer suffice for the prayers of day

483 Holy Quran, chapter 32 Al sajda, verse 5

484 Jami` at-Tirmidhi, 36 Chapters On Zuhd, (24) Chapter: What Has Been Related About The Constriction Of Time And The Curtailment Of Hope ,2332

equal to one year? Thereupon he said: No, but you must make an estimate of time (and then observe prayer). [485]

**So how a person can get out of this dilemma:**

The physicists say that nearly 13.78 years have lapsed since the big bang. While the Quran for sure says that much much less time have lapsed (I deeply believe what my Lord says is the truest). Well, the most suitable way out of this problem is calculate the times that the radiation has transited between the two hyperfine ground levels of the caesium 133 atom from the beginning of its existence, or to calculate the gravitational redshift on the earth in early times. Also, other methods should be utilized.

## 8.4. The conclusion of chapter eight:

Clearly, the Quran which has been revealed to the prophet Mohammed (peace and blessings be on him) nearly 1400 years ago, contains accurate and precise scientific facts about the universe. This Holy Quran was revealed in an age which is considered (the age) retarded to this age in the means of technology and in the means of scientific discovery. Not even that, the Quran also strongly replies those whom suspect in its authenticity and its accuracy. The methods of calculating the age of the universe should be revised as they measure the time according to our days' seconds (time units). While, the Quran clearly states that speed of time has changed on the earth relative to some factors. Therefore, this paper suggests to implement new methods of calculating the time lapsed since the big bang.

485 Sahih Muslim, 54 The Book of Tribulations and Portents of the Last Hour, (20) Chapter: Ad-Dajjal, hadith no. 2939

## The Conclusion of the whole paper:

First and foremost, all praises be to my lord Allah the creator of all heavens and earths be exalted and glorified. I thank him and praise him till everything ends. He had guided me back to islam to this great blessing and bestowed peace on my heart. He, further guided me to to this subject which is a scientific break through just by commitment to the obligations of islam. Also, my lord had permitted and allowed me to complete this after few years of editing.

Secondly, the most intriguing and challenging point is that jinnis are the center and focus point of this paper. These creatures were till now, very mysterious, superstitious and irrationally illogical. At first glance their nature has been identified as to be different from that of both humans and angels. Also, they have been indintified to be of different structures, powers and sizes. Additionally, the evidences were presented regarding them being the cause of prophet's job disease and the cause of plague. These two will add further doubts to the skeptic regarding their existance. This will occur because bacteria, viruses are the causes of infection. Also, the plague being typically caused by a bacterium known as yersinia pestis. However, these will be refuted a bit by the fact that most bacteria are living multicellulary as groups known as biofilms.

Thirdly, the biofilms were discussed which are aggregation of multiple types and numbers of microorganisms. These cells are dispersed in an extracellular matrix and are rearranged to groups of certain specialities. The reader can read and reliaze that the biofilm form is the most abundant form of bacteria and other microorganisms. They were first recognised as planknotic unicellular microorganism under the microscope few centuries ago. Then this idea had become popular as the tools and instruments had become more sophisticated and improved. But, with the proper advance in knowledge and instruments the scientific communites had become familiar with their existence as biofilms. Adding to it is that most nations are proud of what they have acquired of knowledge of their surrounding thinking that it is the sound and correct knowledge. Therefore, most scientific communities either did not agree to their multicellularity or allegedly claimed that is an evolutionary form only been adopted in defense to certain environmental circumstances like antibiotic use. But there are

strong clues that refer to the multicellularity of these oragisms. Penesyan, A., Paulsen, I.T., Kjelleberg, S. *et al 486.* have presented the evidences and arguments for their multicellarity. However, they have also presented arguments against this view. Toward the end of this conclusion an argument will be presented to discuss the views that the above researchers have presented. But what really are biofilms?

Fourthly, the other chapters started by comparisons between jinns and biofilms. At first the features and shapes of the jinns alongside the biofilms were described in details. The following are established characteristics: their cells and extracellular matrix are transparent. Furthermore, their animals (fungi, protozoa and plasmodium) and their extracellular matrices are also transparent. Additionally, they possess horns which are part of the biofilm on the exterior and can be used as weapons. Besides, they have specialized cells to sense light, pain, sound waves and can produce sound waves themselves. The have mechanical parts to be utilized as hands. They can dwell in different places, like: soil, seas, atmosphere, trashes, space and remenants of meteors. Likewise, their progeny undergoes stages just as humans' embryos undergo. Lastly, they embody different animals and insects. Inclusive of this embodiment are humans?

Following this chapter was the discussion regarding the attached jinn or devil to every human. The microbiota associated with every human seems to have been there for many millennia. Also, these are acquired from the mother as the baby is being born. These attached microbiotas are found in nose, ears, on hair, on skin, in the GIT and in the genito-urinary tract. Most importantly, is the blood microbiota which is to some extent controversial. Lastly, in paradise where the jinn are dettached from human beings do not become thirsty nor hungery.

Further on, their effects on the sleep, mood and human abilities are discussed. Depression, paranoia, OCD, anxiety and schizophrenia are confirmed to at least be due to dysbiosis in the gut microbiota. Clearly, humans and microbiota are getting mutual benefits from each another.

486 Penesyan A, Paulsen IT, Kjelleberg S, Gillings MR. Three faces of biofilms: a microbial lifestyle, a nascent multicellular organism, and an incubator for diversity. NPJ Biofilms Microbiomes. 2021 Nov 10;7(1):80. doi: 10.1038/s41522-021-00251-2. PMID: 34759294; PMCID: PMC8581019.as

Abiding the rules of islam will keep you safer from the attached. while the opposite is vice versa. Even, with these immense similarities between the two types their names are different.

It is obvious that the writer has chosen the possibility that they are the same creature. This is solved by reading the Holy Quran where Allah the superior tells us the story of other nations that changed the names of the worshiped idols to puzzle and deceive the common people. Allah the most superior says: You do not worship besides Him but only names which you have named (forged), you and your fathers, for which Allah has sent down no authority. The command is for none but Allah. He has commanded that you worship none but Him, that is the straight religion, but most men know not. (Suarh Yusuf (12), verse 40)

On the other hand, the similarities are very strong clues to prove that they are the same creature. However, lots of scientists and lots of Muslim would refuse this idea. They would ask for a hundred percent match between these two creatures as their ancestors did with the prophets. They asked for miracles and when miracles happened, they had come with other pointless arguments. If we put together all the features of these two creatures and compare them together, then the odds of these two having these shared features to be by chance is nearly impossible. Adding to that all the fact that the era when our beloved prophet Mohammed (peace and blessings on him) was sent, was a non- prosperous time where science and machines had not been so advanced.

Against all the odds, till yet there is an ongoing discussion that bacteria are multicellular organisms i.e the biofilm is one or two or few organisms but not millions? here we discuss the recent review performed by Penesyan, A., Paulsen, I.T., Kjelleberg, S. *et al* [487].where they have suggested that there three faces of biofilm. The first face is that biofilm is collection of unicellular individuals of bacterial cells (most evidences and the reality is against). The second face is that of an incubator for microbial cells. The last one is to some extent true because these are like humans to have

487 Penesyan A, Paulsen IT, Kjelleberg S, Gillings MR. Three faces of biofilms: a microbial lifestyle, a nascent multicellular organism, and an incubator for diversity. NPJ Biofilms Microbiomes. 2021 Nov 10;7(1):80. doi: 10.1038/s41522-021-00251-2. PMID: 34759294; PMCID: PMC8581019.as

offsprings. This inturn means that they will hold the embryo like creatures inside their bodies. Also, this means that these creatures most likely reproduce multicellulary and these planknotic cells are most likely their germ cells that lead to the gamete like stage and later on the embryo like stage. The third face discussed by the above researchers is the multicellular form which supported by the evidences and is the true and mature form of jinns or biofilms.

The last chapter was completely off topic, but the whole paper is written to refute the doubts that most liberal and seculars has doubts regarding feasibility of religion to rule this worldly life. Another point discussed by those sects is the segregation of religion from ruling, jugdement and scienc. But Allah knows best and he says: He it is Who drove out the disbelievers among the people of the Scripture (i.e. the Jews of the tribe of Banû An-Nadîr) from their homes at the first gathering. You did not think that they would get out. And they thought that their fortresses would defend them from Allâh! But Allâh's (Torment) reached them from a place whereof they expected it not, and He cast terror into their hearts so that they destroyed their own dwellings with their own hands and the hands of the believers. Then take admonition, O you with eyes (to see).
— Muhammad Taqi-ud-Din al-Hilali & Muhammad Muhsin Khan[488]

In the author's conclusion, Biofilms are jinn but humans were hideous about this fact because of abandoning true religion. The fact that they share a lot of features and similarities that are discovered only by very sophisticated instruments and laboratory machines makes the alarm ring a bell that there is a mistake in interpreting them as unicellular organisms. Thus, The Quran has overcome modern sophisticated scientific equipment in an unprecedented way. Therefore, in order to observe them directly them on the micro and the mesoscale a mixture of mass spectroscopy, confocal scanning laser microscopy and a dynamic MRI method should be employed.

Lastly, discussed in this paper is that viruses are their horns and other than bacteria and viruses are the cells of their animals. Not all biofilms will have viruses or horns. These bacterial and fungal cells are dispersed in to an

488 Al Quran, chapter Al hashr 59, verse 2

extracellular matrix which is the same for human tissues. There are many other ways that these can afflict diseases. They are the evil because of the disobedience to Allah's commands. There is bidirectional pathway of effects on each other. Therefore, if we become true slaves of Allah, he will protect us. + Allah the Most Great says: "Certainly, you shall have no authority over My slaves, except those who follow you of those who go astray. [489]

This research has refuted many new cocepts that has manifested as isms. The first one is the Darwinism as its followers says that microbes as a single cell where found to exist randomly. This is the transition phase as the creatures evolved. However, this has been refuted in this paper as microbes has existed only in the multicellular form. The second refutation is the the secularism andliberalsim. They say everyone is free and the religion should not interfere with our lives and daily living. Well, this is also wrong because ALLAh has created us with a certain gentic code and has revealed the way that these original codes remain the same by doing certain good deeds which he has ordered. There is no other way than religion to retain that code. The last wrong principle is atheism which states all the above plus if God exists why there such evil, mutation and diseases. Well, God has created the good and evil but ordered everyone to do good. Also, diseases and and mutations are caused by devils by the help of the humans.

All Thanks be to my GOD and LORD: ALLAH

489 Al Quran, chapter 16 (Alhijr), verse 42

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